Budgeting and public sector efficiency in Tanzania

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BUDGETING AND PUBLIC SECTOR EFFICIENCY IN TANZANIA.

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ABSTRACT

BUDGETING AND PUBLIC SECTOR EFFICIENCY IN TANZANIA.

The Government has been directing its efforts towards eradicating poverty, illiteracy and diseases through its policy of "Socialism and Self-Reliance" which placed greater emphasis on local initiative to steer its development. Its modest achievement in the social sectors notwithstanding, the pace of development in the economic sectors has not matched the expectation. Some intractable economic problems experienced since late 1970s have even pushed the Government into seeking for more foreign aid. Some stabilization measures initiated since the 1970s have had little success too.

A priori, it was thought that the lack of in-depth studies on the key sectors contributed to the failures, and hence the need for thorough studies to establish their operational level of efficiency.

The choice of the public sector for the study was underlined by its leading role in directing development activities. The study intends to establish the efficiency with which its operational and developmental resources are mobilized and allocated. The study has focussed mainly on the process of forecasting Government revenues and expenditures. However, to support the latter analysis, an investigation of the factors which, a priori, were considered to influence the behaviour of revenues and expenditures was undertaken. While factors such as paucity of tax handles, and foreign aid and population growth appeared to influence the pattern of revenues and expenditure respectively, however, the investigation of the forecasting process did not indicate any use of the latter factors, nor did it point to any evidence of systematic or scientific methods

being used.

Various recommendations were suggested, including, inter alia, the use of easily identifiable factors to generate projections, the use of realization functions to adjust initial projections, better coordination of foreign aid, and greater emphasis on manpower training etc. Hopefully, if implemented, they will help to enhance the efficiency of resource mobilization and allocation in the public sector.

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PART 1.

This part comprises of chapters 1 to 3 which are intended to introduce and highlight the problem of public budget determination in Tanzania. Specifically, chapter 1 introduces the topic and underscores the reasons for chosing this particular study. Moreover, the methods of carrying out the study and the source of data are highlighted. Chapter 2 examines the available literature on both developing and developed countries about the determination of public budgets, and as it relates to Tanzania. It also reviews contemporary economic thinking about the role and problems of fiscal policy. As for chapter 3, the state of the Tanzanian economy is brought to the readers' perspective. The salient features of the economy are discussed in detail.

CHAPTER 1

INTRODUCTION

I. AIM OF STUDY

The purpose of this study is to investigate the process of forecasting public expenditure and revenues in Tanzania. The variables which are used in predicting expenditure and revenues are identified and then investigated for their use. The process of identifying such predictor variables involves using some scientific methods (mainly regression analysis), and through imterviews with budget officers in various ministries and regions in Tanzania. The underlying assumption in carrying out this investigation is that the divergence between past forecasts and actual expenditure has arisen out of a failure to specify correctly the predictor variables. Correct specification of the predictor variables would therefore reduce the forecast discrepancies. Reliable budget forecasts are considered to be essential if the fiscal policy measures taken are to be of value in as far as the management of the economy is concerned.

The desire to carry out this investigation was motivated by a couple of factors. Foremost, the area of public finance in Tanzania has remained under- researched, and therefore the need for a detailed study is underlined mainly by the monumental role that is assumed by the public sector in steering the economy towards development. The current downward trend in economic performance certainly calls for a more in-depth investigation of the activities of the key sectors

involved. Various policy measures adopted by the government have not achieved the desired economic growth and stability. The failure of such policies tended to suggest, on a priori grounds, that a lack of adequate analysis of the instrumental factors involved rendered most of the policy measures adopted ineffective. Therefore, identifying underlying weaknesses in the key sectors, and in particular the public sector, could enable the decision makers to undertake more concrete policy decisions.

As shall be discussed further in Chapter 2 under literature review, the literature lacunae that exists on public sector budgetary systems in developing countries is significant, and certainly a source of concern. The paucity of literature about Tanzania's public sector, from either journals or books, precludes any informed decision making. There is hardly any scholarly study work on the sector. To account for this shortage, one is inclined to suspect that the absence of literature is, on a priori grounds, due to the underdeveloped nature of the country, which manifest itself in situations like underdeveloped educational and research institutions which would have done such studies. Ultimately, a policy maker is confined to government publications and reports for an understanding of the budgetary system. However, this deficiency in literature is not confined to Tanzania alone. The problem looms large in the developing countries (LDCs). One may find a few publications on budgetary systems, confined mainly to a few articles in economic or public policy journals, which, however, have a tendency to study the problem from a large sample of countries with enormous differences in their economic development and ideological orientation. Such sample-based

studies tend to give some general impressions, and it is quite possible to have conclusions on sample studies contradicting conclusions on individual country study. One major weakness in Tanzania and other LDCs, which constrains the development of literature, is of course the scantness of data. A priori, data-base development, especially that of long term series has lagged behind in most LDCs. Even where time series data are available, their reliability comes to question because of sheer inadequacy in the data collecting systems. The latter notwithstanding, some attempt has to be made to initiate studies based on the data available, which I suppose, will have an impact of encouraging the development of a better data management system.

While the need to study the public sector to bridge the literature gap that exists, as a long-run objective, remains paramount, in the short term, the economic turmoil that the country has been going through in the last decade or so, makes it even more imperative for micro-efficiency studies to be undertaken. This is in order to have a clear perception of the nature of the interactive forces which contribute to the pattern or behaviour that is generally discerned for the sectors in particular, and for the total economy at large. The underlying argument in this study is that it is only through an achievement of micro-efficiency that an overall macro-efficiency can be achieved. In other words, the policy instruments set to improve the performance of the economy as a whole can be effective when each sector operates and allocates resources efficiently within itself, which in turn would have the impact of making intersectorial resource allocation and use be equally

efficient. The latter said, the situation is not as simple of course as might be portrayed by the statement. This is so because, in the face of the entrenched structural economic imbalances, and the lack of a strong planning institution, the achievement of an optimal intersectoral resource allocation remains far fetched. Nevertheless, the economic crises cannot be left to worsen further without an attempt to redress the situation.

The macro-economic imbalances which have beset the economy, and for which various policy instruments adopted could not provide a solution, have manifested themselves in various ways, namely: a deepening balance of payments crisis; a growing public sector deficit; a rapidly rising inflation rate, and a heavy slump in production at both sectoral and overall level etc. Moreover, those recessional problems have posed a serious threat to the country's preferred economic stance of self-reliance, consequently forcing the country to continue seeking more developmental and operational economic aid from outside world. But this unceasing quest for more aid, with no bright prospects for the economy in the near future, remained of great concern to the government, but also to the foreign aid donors, notably the International Monetary Fund and the World Bank. The desire for much stringent policy measures and reforms became inevitable, with the aid donors insisting on seeing a package of structural adjustment measures. As one would expect, given the urgency of the external funds, a structural adjustment programme was hastily prepared in 1982 without carrying out thorough studies on the major sectors of the economy.[1] Given the past record of failures of policy measures adopted, the necessity for thorough sectorial studies was underlined.

Hence the picking up of the public sector for such study.

The public sector in Tanzania has been at the centre of economic activities, largely from 1967 when the country adopted a policy of socialism and self-reliance. This sector has therefore been used to implement virtually all the important macro-economic and social plans. Consequently, this has led to a sharp rise of the share of the public sector in GDP in post independence period.

The influence of public sector on resource use, in its own domain, and in the private sector, is undoubtedly complex and pervasive. Within itself, given that the government does face a budget constraint, increased resource allocation (or service output) in one sector of the government activity implies an eventual relative decline (or absolute decline in case of revenue stagnation or fall) of the other sectors. Beyond its own domain, the public sector influences the private sector by, first, diverting private income (through taxes) to public use, and secondly, through factor (labour) and product purchases.[2] The situation for a LDC is even more complicated, especially where the public sector has been granted monopoly over economic activities. This is so because when the public sector is short of revenues, it often falls on unplanned deficit financing and secondly, resources invested by it inefficiently, especially those borrowed from outside, will have to be repaid eventually by resources produced in the private sector (ie from their exports), at the expense of imports required for further production and capacity creation. Therefore, the fact that when government expands its services there are output losses in the other sectors caused by either underfunding or/and deprivation of resources due to a

de-emphasis of such sectors in the expansion programme, underlines the importance of this public sector to the rest of the economy. In lieu of the latter, a study priority ought to be placed on it.

II. METHODS OF APPROACH - HYPOTHESIS SETTING

The main analysis will be carried out at two levels. The first level discussion will focus on the investigation of those factors which influence both government expenditure and revenue in a developing country scenario. The second level of discussion will focus on the investigation of the practice of budgeting; which includes, an exploration of factors utilized to project the budget; the weaknesses of the forecasting system; and a recommendation of policy measures and reforms which ought to be initiated to retrieve the worsening budgetary situation.

The theories or hypotheses postulated so far to cover LDC scenario in the discipline of expenditure and taxation are generally limited. Nevertheless, those few hypotheses which have so far been proposed by other authors for LDCs, will be taken into consideration in the study. Moreover, alternative hypothetical propositions which may be more relevant in the Tanzanian circumstances will be suggested. The testing of the hypothesis will be done with empirical data on Tanzania. The objective is, of course, to be able to identify the factors which appear to influence the behaviour or pattern of public expenditures and revenues in Tanzania. Thus, a number of key questions will be addressed to in the study. These include, inter alia,

1. How does economic development affect both expenditures and

revenues?

2. How do expenditure and internal tax revenues respond to external assistance?
3. How unstable have the expenditures and the revenue been?
4. How does expenditure respond to the levels of revenues?
5. How correct have the predictor variables used in forecasting of expenditure and revenues been etc?

The analytical techniques that will be used will be both descriptive and quantitative. The chosen method being contingent on the availability of data and other crucial informaton. In the case of quantitative analysis, resort is mainly to partial regression (and multiple regression) analysis using ordinary least square method, applied mainly to trend data. The functional forms that the formulations will take will be both linear and logarithmic form.

The data that are used in this study consists of government expenditures and revenues, and other supporting economic and social measurement data. The data were assembled from both primary and secondary sources. For primary data, the researcher employed both interviews (using a guiding open-end questionnaire) and self-administered questionnaire, depending of course on the type of information that was to be gathered (see Appendix 14). A number of agencies were covered in the latter exercise. These included some government ministries and a few regional finance centres. As for secondary sources of data, the researcher collected the data from all possible sources such as libraries, research centres, etc.

III. DATA LIMITS

The data that are used in the study relates to Tanzania mainland, ie they do not include Zanzibar Island which, in practice, operates a separate financial system.

Secondly, the reference to public sector in the text is used in connection with activities performed by the central and local government. These activities are of two types. The first category relates to the functions which are financed, executed and accounted for by the government itself or any of its independent agencies. The latter would involve provision of both 'pure public goods' (ie. law and order, defense etc.) and 'mixed goods' (ie. education, health services etc.).[3] The second category of activities is that involving directly productive investments, financed mainly by government, but their management resting with independent corporations. In this latter case, the financial operations are separated completely from the budgetary system of the government, except where the government has to inject additional capital either inform of expansion capital or rescue (subsidy) capital. Therefore, in this study, the budgetary matters are confined mainly to the government budget, and the public corporations will be included in as far there is a flow of resources from the government sector to them. The separate budgets of such corporations do not become a part of the public budgetary system that is to be investigated. A more detailed outline of the nature of public sector in Tanzania is given in Appendix 3 below.

The data that was assembled covered the period 1953/54 to 1983/84. The fiscal year 1953/54 was used as the cut-off bottom-end

period because the time series data that is available in libraries and other record centres begin during this year. On the top end 1983/84 has been used because that is when the latest actual data for a number of measures could be obtained. Although such a long time was considered for data assembly, however, all the analyses do not confine themselves to that period. In many analytical cases the author has tended to confine himself to data relating to the post 1968/69 period and ending in 1982/83 period. Nevertheless, where advantage in conclusions could be derived from a long-time data analysis, the author has not hesitated to exploit such advantage.

When dealing with a developing country, the problems of data inconsistence, imcompleteness and sometimes non-availability are inescapable. This is for two main reasons: This is so because the problem of data is a reflection of the weaknesses in the data collection systems in the country: but it is also a reflection of the "pressure" that the country finds itself under as a result of trying to respond to calls to supply information to external agencies which have a particular interest in the country. The latter point applies mainly to the disaggregated data, in which case one can encounter a case of a certain category of information being maintained in the records for as long as the relationship with the external agency lasted. To overcome this data discrepancy, some tireless effort was made to put together the loose information to an extent that a meaningful analysis could be done, while ensuring that the data did not lose its originality. In other occasions it was impossible to adjust the information available, and for that matter, certain analyses considered to be desirable had to be be skipped, but without

causing a serious gap in the study.

IV. OUTLINE OF STUDY

The outline of the study discussion is divided into four parts. Part I introduces the problem that will be studied, as well as highlighting on the salient features of the economy. The discussion on the state of the economy is covered in chapter three. The inclusion of the latter materials, as detailed as it has been presented, was considered essential in view of the fact that there is not much literature available about Tanzania in public literature sources. It is hoped that the readers of this study will have a greater appreciation of the problem being studied after they have gone through the material. In Part II the discussion moves to the core part of the study. The various hypotheses explaining the behaviour of expenditures and revenues are discussed and empirically tested. Thus, Chapter 4 presents a critical review of the hypotheses, while Chapters 5 and 6 present the empirical results for expenditure and revenues respectively.

In Part III the discussion concentrates on exploring the extent to which the various variables discussed in Part II have been used in the forecasting process. The discussion does not confine itself to the practical forecasting situation alone. A theoretical overview of the forecasting environment is presented as well. The latter is presented in Chapter 7. while the empirical investigation is done in the next five chapters. So, Chapters 8 and 9 present investigation results of tax revenue and external assistance forecasting respectively. Chapter 10 and 11 present investigation results of recurrent and development

expenditure forecasting respectively. Chapter 12 presents the investigation results of fiscal deficit forecasting.

Finally, Part IV presents two critical Chapters. Chapter 13 examines the problem of recurrent costs in Tanzania, while Chapter 14 presents concluding remarks of the whole study.

NOTES:

1. Events subsequent to the cut_off time for the study (1983) have been highlighted in Appendix 2

2. Musgrave, R.A. and Musgrave, P.B. (1980). Public Finance in Theory and Practice. 3rd. ed. p.21 New York, McGraw Hill Book Company.

3. The dicussion on what constitutes 'pure public goods' and 'mixed goods' is picked up in Appendix 3 of this thesis where public expenditure is defined.

CHAPTER 2

PROBLEM DEFINITION AND LITERATURE REVIEW

1. INTRODUCTION

This chapter attempts to expose the nature of the problem that will be dealt with in this study. The focus is of course the public sector as defined in chapter 1 above.

The chapter presents highlights of the budget situation. Specifically, the size of the public sector, in terms of both revenues and expenditures, is examined. The merits and demerits of the observable size are also examined briefly. Moreoever, the state of affairs over the forecasting aspect of the budget is previewed briefly. The highlights on the latter touch on the direction of the past forecasts in relation to the outturn, and the nature of problems one has to face during forecasting in a LDC environment.

Furthermore, the problems of government budgets are examined in an international context so as to demonstrate that the study on Tanzania's public sector is part of a global effort to find a solution to the persistent problems of fiscal policy in many developing and developed nations. The outcome of this study is therefore expected to contribute to the current economic thoughts about fiscal policy issues.

This chapter presents also a brief literature review on Tanzania's budgetary system. The problem of literature is also discussed in relation to other developing and developed countries.

The setting of the chapter is as follows. Section II presents a review of the main trends of the public sector, while section III presents a review of an international perspective of fiscal policy problems. Section IV looks at the problem of literature in Tanzania in relation to other countries. Finally, section V presents a summary of the chapter.

IV THE PUBLIC SECTOR: MAIN TRENDS.

(A) EXPENDITURE LEVELS

There has been much concern over the rate at which the size of the public sector (see Appendix 3 for a detailed definition) has been growing. Most of the concern by the government being on recurrent expenditure.[1] Referring to Table 2:1 below, between 1969 and 1983 the share of total government expenditure in GDP almost doubled. It rose from 22.9% in 1968/69 to 43.5% in 1982/83.

Table 2:1 EXPENDITURE LEVELS IN RELATION TO GDP, AND TO TOTAL EXPENDITURE: 1968/69 to 1982/83

PERIOD	TE/GDP[a]	RE/GDP[b]	DE/GDP[c]	RE/TE[d]	DE/TE[e]
	%	%	%	%	%
1968/69	22.9	16.5	6.4	72.0	28.0
1969/70	28.9	20.5	8.4	70.7	29.3
1970/71	30.7	19.9	10.8	64.7	35.3
1971/72	30.1	20.1	10.0	66.8	33.2
1972/73	31.4	22.0	9.4	70.0	30.
1973/74	38.9	24.8	14.1	73.6	36.4
1974/75	44.2	28.3	15.9	64.0	36.
1975/76	35.1	21.9	13.2	62.3	37.7
1976/77	45.2	26.8	18.4	59.2	40.8
1977/78	37.4	23.4	14.	62.6	37.4
1978/79	42.2	26.8	15.4	63.6	36.4
1979/80	42.1	27.0	15.1	64.0	36.
1080/81	39.2	26.7	12.5	68.1	31.9
1981/82	41.7	31.0	10.7	74.2	25.8
1982/83	43.5	33.4	10.14	76.2	23.3

Source: Computed from data appearing in Appendix 1
a - Total Expenditure to GDP ratio expressed in percentage
b - Recurrent Expenditure to GDP ratio expressed as a percentage
c - Development expenditure to GDP ratio expressed as a percentage
d - Recurrent Expenditure to Total Expenditure ratio in percentage
e - Development Expenditure to Total Expenditure Ratio in percentage.

On the other hand, the recurrent expenditure share on GDP rose from 16.5% to 33.4% in the same period. Development expenditure did not

have that steady growth although there was a general upward trend. Much of the growth in the development expenditure took place between 1968/69 and 1979/80, after which there was a sharp fall. Its ratio jumped from 6.4% (1968/69) to 15.1% in 1979/80 and then fell to 10.1% in 1982/83.

Looking at the recurrent and development expenditure as a proportion of the total expenditure, we observe that the recurrent expenditure share remained within a range of 59% and 76%, while the rest went to development expenditure.

The expansion that took place in total expenditure during the 1969-83 period was tremendous and it demanded more resource than the economy could provide. The government has been expressing its dissatisfaction of such a rapid expansion. In monetary terms, the expenditure appeared to have been growing at a faster rate than that of inflation. During the 1970-80 period inflation rate was about 11.9%[2] while public expenditure growth was about 19.1%[3] in nominal terms. The high growth in expenditure prevailed in spite of the expenditure compression policy pursued by the government during the same period. The government even adopted a system of setting ceilings and imposing cash limits for each spending agency so as to ensure that the levels of spending remained within the plan. The performance of the expenditure budget is discussed in detail in Chapters 10 and 11 below. However, the high levels of expenditure tend to suggest that the country is facing consequential expenditure problems which were never encountered by the developed industrialized countries. A casual look at the latter's capital spending levels vis-a-vis that of Tanzania points to a big contrast. In UK, the share of public capital

expenditure in nominal GDP was between 3.6% and 6.4% during the 1955-76 period. [4] In the case of OECD countries, the public capital expenditure to GDP ratio for 1975 period, ranged between 2.2% and 6.2%, [5] while that of Tanzania was 18.4% as appears on table 2:1 above. The latter clearly suggests that Tanzania has been developing a capacity disproportionate to the expansion of the productive sectors of the economy. And as was pointed above; about two thirds of the development expenditure is financed from external sources. It can be hypothesized in this case that due to lack of proper planning in the country, and the absence of any serious studies as argued already above, such deficiencies obscured the grasping of the implied operation and maintenance burden associated with the excessive development spending. Moreover, since the governments' social policy is to provide social services such as education, health, clean water etc., without user charges,[6] the implication is that the consequential costs arising from any new investment in these sectors would have to be borne directly by government.

(b) Revenue Levels

This section examines the level of revenues over the period 1968/69 - 82/83. The revenues are considered under three categories, namely tax revenues, local borrowings, and external borrowings. The tax revenues appear to have grown substantially over the 1969-83 period. Its ratio (to GDP) rose from 17% to 25%, with certain years (especially mid-1970s) seeing a ratio as high as 35%.

In the case of local borrowing, there has been a substantial growth too. Its ratio (to GDP) grew from 4.1% in 1968/69 to 12.3% in

1982/83, although in between especially mid 1970s, the ratio was as low as 2.4%, a time when the tax revenue ratio reached the highest peak.

Looking at foreign borrowings, there was a tremendous growth as well. The period 1968/69 - 76/77 was one of a rapid growth with a change of more than 350%. During the 1969-77 period the ratio rose from 1.7% to 8.0%. Between 1977/78 and 1982/83 the ratio fluctuated but with a downward trend, thus ending at 4.6% level. The ratios referred to above appear in Table 2:4 below. It is worth noting that the total of all categories of revenues equals to the total expenditure appearing on Table 2:3 above.

Overall, the trend of tax revenue does not appear to be in consonance with government spending needs as presented in Table 2:3 above. In the more recent years, ie. beginning with 1978/79, the ratio of tax revenues has been lower than that of recurrent expenditure. The implications of this gap are serious because government's adopted policy instrument of mobilizing local savings for investments is defeated. Besides, this gap must have pushed the government into greater deficit financing, a move that would definitely defeat the credit policy adopted for economic stabilization. Thus, given the tax revenue-expenditure gap, one cannot fail to see why local borrowing rose so sharply. This situation raises a number of questions. On the part of tax revenues one would certainly like to know whether the problem of inadequacy arose from a lack of buoyancy in the tax system (see chapter 6 p. 164 for a further discussion) or a lack of tax handles or possibly some laxity on the part of administration. The study will address itself to some of these isues.

Table 2:2 REVENUE LEVELS IN RELATION TO GDP

Period	Tax Rev	Local Borrowing:	Foreign Borrowing:
	GDP	GDP	GDP
	%	%	%
1968/69	17.16	4.1	1.7
1969/70	20.7	6.6	1.6
1970/71	18.4	7.6	3.3
1971/72	21.8	4.0	4.4
1972/73	22.9	3.4	5.1
1973/74	26.2	6.8	5.9
1974/75	28.5	8.3	7.4
1975/76	23.0	6.1	6.1
1976/77	34.9	2.4	8.0
1977/78	25.6	6.2	5.8
1978/79	22.0	12.3	7.9
1979/80	22.7	12.7	6.8
1980/81	23.4	10.9	4.9
1981/82	23.5	13.8	4.5
1982/83	25.1	13.9	4.6

Source: Computed from Data Appearing in Appendix 1

On the part of external revenues, the decline that was observed in the more recent past tend to suggest that there were problems with raising the external resources. Recalling what we said above regarding stabilization policies in the 1970s and early 1980s, one of the policy instruments adopted by government was one of increasing productive capacity financed from foreign borrowing. Therefore, the

fall in the flow of external revenues is one isue that deserves an in depth study.

(C) Budget forecasts compared with the outturn

The importance of budget forecasts cannot be overemphasized. Projected budgets stand for plan of action. The message is clear from Caiden et.al. They pointed out that "when governments decide how much they will spend on various activities during the year, they have evolved a plan of action." [7] Behind plans are targets or specific goals that have to be accomplished. For the public sector, the goals are multivarious. They range from those aiming at allocation and distribution of resources in the state, to those intended to regulate and stabilize the economy. An accomplishment of such objectives would therefore require that a prudent estimation of both expenditures and revenues should be undertaken. Moreover, the resources put at the disposal of the government carry a big cost to the nation, especially those from external sources, a situation that underlines the significance of proper planning for their use. A realization of the targeted budget can therefore be construed as a realization of the plans, other things remaining the same.

The revelation made in section II above about the government's failure to enforce the policy measures it adopted over tax revenues and expenditure are a clear indication of the system's failure to produce reliable forecasts. The government failed to control the growth of expenditure and deficit financing; but also the tax increases were not sufficient to cover the upsurging expenditure in

the '70s and early 1980s.[8] As a result, the government has often been pushed into preparing supplementary estimates to cover the shortfalls in the initial predictions. (Green 1983: p.365). The details for tax revenue and expenditure forecasts are covered in chapters 8 to 11 below; however, it is in order to mention at this juncture that there have been wide variations between the forecasts and the outturn for both revenues and expenditure. The most common situation being underprediction of both tax revenues and expenditure. The latter phenomenon, especially on the part of tax revenues, raises some doubts as to whether the actors in the budgetmaking were really committed to the policy measures which were adopted by government. The underprediction suggests that the objective of raising as much tax revenue as was possible was undermined right from the budget inception stage. The second doubt raised is whether the actors in the budget-making had a control on the budget determinant factors, ie. those variables from which either revenues or expenditure are predicted. The search for answers on these questions is, of course, the purpose of the study. Lest we raise too much optimism about what the study expects to uncover, the findings of Caiden and Wildavsky about other LDCs could be a valuable guide. To repeat what has been cited above already, they pointed out that "it may take two years or more before they (budgeters) know how much their goverment has spent. For them, not prediction but "retrodiction" is the problem'.[9] They continue, "to hedge against uncertainty the officials responsible for the budget under estimate and overestimate the revenue and expenditure respectively. By so doing, the officials hope for a balanced or surplus budget.[10] The latter should not, however, be construed to

imply that forecasting errors are a feature of the LDCs alone. They are also a common feature in the industrially developed countries. A good example of this is Britain.[11]

As regards the prediction of external loans and grants, the budgetars appeared to have been rather over ambitious. Some scholars who have looked at the problems of aid in Tanzania have observed that the government has been rather over optimistic in its expectations. As Mushi commented, "the forecasts of foreign aid.... appears to be based on the residual needed to meet hopes for expenditure levels, and this residual may be double the historical trend for aid flows.[12] The problem of unpredictability is a serious one for the economy because a large proportion of the development expenditure (about 2/3rds - Green 1983: p.355) is expected to be financed from such aid. However, the government has always been aware of the uncertainty that looms over external resource flow. In fact the policy of self-reliance enshrined in the Arusha Declaration (1967) pronouncements, was partly a reflection of failure to secure external resources at the anticipated level. In the first five-year plan, 1964/69, 78% of the development expenditure funds was expected to come from foreign sources, but only 35% was forthcoming.[13] In recent years, although external funding still remains the main source of funding, however, the realizations have remained far short of expectations.[14] But why such a big discrepancy? Resnick provides another guiding clue as he points out that "although they (government) took formal steps in the second five year plan to make the capital budget primarily locally financed, foreign-funded projects continued to be regarded by ministries as 'free' in the sense that they were seen as activities

that could be started without giving up projects wholly financed out of local funds."[15] The latter certainly continues to underscore the weaknesses which have beset the budgetary system in Tanzania. The study will certainly focus on these weaknesses.

III AN INTERNATIONAL PERSPECTIVE OF FISCAL POLICY PROBLEMS.

The study on the Tanzanian fiscal system should not be viewed as an isolated case. It should be seen as being part of an international effort to seek a solution for the escalating problems of fiscal policy.

The role played by fiscal policy in controlling the economy has lead to a surge in economic thinking about what ought to be the optimal level of government expenditure and taxation. Fiscal policies are seen to have profound effects on incomes, consumption, saving and investment.[16] However, the trends in government budgets of both developed and developing countries point to persistence of the growth in expenditures, increasing deficits, and difficulties in raising resources. These problems have given rise to serious questions on the direction of fiscal policy and on the institutional adequacy of the budget machinery for controlling expenditure.[17] The growth in expenditure is seen to have led to an increase in taxation which in turn had disincentive effects throughout the economy by holding back the growth of output. Moreover, higher indirect taxes contributed to increases in retail price indeces. As pointed out by Premchand, "higher taxation encouraged the adoption of evasive strategies to minimize taxes by a host of activities that lacked any redeeming social value."[18]

As for expenditures, the conversion of social assistance payments from discretional to entitlement programmes not only had contributed to the problems of budgretary control, but had tended to have adverse effects on incentives to production. Another effect of

these transfer payments is seen to include the undermining of the process of restoring incentives through the tax cuts. Consequently, with the increase in inflation and the competitive prospects of domestic industries became dim, governments resorted to the provision of subsidies for private enterprises which culminated in increased inflation without economic growth.[19]

As for fiscal deficits, the resort to borrowing from the banks and from the public is seen to have had some adverse effects on the economy as well. The use of low prices bonds to borrow from the public pushed up interest rates which in turn had the effect of discouraging the issue of private bonds, private investment, and private spending, all of which are interest elastic. The excessive use of fiscal deficit thus contributed to a financial "crowding out" of the private sector.[20]

The above problems which are attributed to fiscal policies have given rise to economic thoughts which attempt to provide a solution on how governments could mobilize and allocate resources witout endangering economic growth and stability, and also provide new directions to fiscal policy. Although economists accept the growth of expenditures, there is no firm agreement on whether there has been inadequate use of the resources acquired from the private sector, and whether such acquisition had become more destabilizing by fueling inflation by higher taxes and interests.[21] The economic theories which have emerged could be put into two categories. The first category is that of the "supply side of economics" while the second one is related to the approaches of pragmatic policy makers.[22] In brief, the supply-side economic theories are divided again into two

categories. The first category emphasizes the role of the private sector in the provision of goods and services hitherto priovided by the government. As pointed out by Premchand, the economists in this category advocate that "provision of education, health, and community services, or of assistance to the unemployed or backward, are better undertaken through the private sectorl."[23] The second category of supply-side economics emphasizes the reduction of constraints caused by high levels of taxation and regulation. It is argued that reduction of tax would stimulate output etc.

This thesis is in the tradition of pragmatic school of thought which emphasizes the efficient performance of the fiscal functions. They recognize that public expenditures rise because of political pressures and the absence of market desciplines and competition. As pointed out by Prenchand [ibid. p.32], "this approach seeks to foster a link between services and payments, on the other hand, and a better use of the fiscal instruments, on the other."

The controversy that exists over what share of welfare services should be catered through government institutions and at what level of efficiency underlines the need to carry out some country studies so as to understand the nature of fiscal problems. The study on Tanzania's fiscal policy problems therefore joins the international effort to understand the nature of the fiscal problems.

IV. STUDIES UNDERTAKEN IN RESPECT OF TANZANIAN PUBLIC SECTOR.

(a) The Lack of Literature

The public sector in Tanzania has received the least attention as far as analytical publication is concerned. Inquiries made with persons who had been advisors to the government confirmed that there was no publication examining the problems of budgeting in Tanzania.[24] The lack of literature about Tanzania's budgetary system is a reflection of a general problem in Least Developed Countries (LDCs). Several authors have expressed their concern about this situation. For example, Caiden and Wildavsky have noted that the analyses of budgeting in LDCs have been very few, and the reasons for this lacunae is the scantiness of materials.[25] Hinchliffe and Allan provide a further clue to the literature deficiency by pointing out that "relative to its size and importance in most economies, analysis of the allocation of public expenditure is one of the most neglected areas in development economics." They continue, "while planning has been regarded by economists as an innovatory high prestige operation worth of their skills, budgeting has been seen as a mundane low prestige activity undertaken by accountants.[26] The latter point is further reinforced by Mendoza.[27] And even where there are some references to budgeting in the general African literature, Leonard et.al point out that "they rarely get beyond generalities."[28]

Although in the post-independence period, Tanzania's government spending expanded considerably, from 16.2% in 1961 to over 40% in 1980s (expenditure as a ratio of GDP),[29] however, interest in studying the problems of the sector in respect of budgeting lagged behind. One could even suspect that the fact that government spending

had not been in serious problems prior to 1970, in terms of lack of financial resources either from tax revenue or borrowings, obscured the need for thorough studies. But even with the emergence of the 1970s and 1980s crises, it has still taken long before there were any rigorous studies. It appears as though this delay in initiating some studies is caused by the problem of manpower (skilled personnel in economics, finance, accounting etc.) shortage. The latter problem (ie of shortages in skills) was acknowledged by the World Bank as being a critical obstacle to growth In LDCs.[30] But also as noted by Green, in 1961 the ratio of local high level person manpower was about 10% (Expatriates 90%) and by 1981 the ratio had risen to 80% (Expatriates 20%).[31] In spite of the increase in local manpower supply, however, the shortage continues to prevail due to the expansion in both productive and service sectors that the economy has been going through over the past years.

(b) Current efforts to study budgetary problems in LDCs and the Developed Industrial Countries.

The overwhelming economic crises which have engulfed LDCs in recent times have aroused the interest of several international scholars and institutions such as the World Bank and IMF to start looking at budgetary problems in such countries.[32] There are other grounds for this interest, though. Besides an interest to assist the LDCs overcome the economic ills, on the other hand, the interests of the international money and capital markets are now at stake in most of the LDCs. The staggering external debts of the developing countries pose a very serious problem. Most of the LDCs can not service or

repay such debts in spite of efforts to reschedule them taken by the financiers. Hopes for overcoming the debt crisis are seen to rest with a better management of the LDC economies. For many LDCs, the past decade was of declining economic performance. As the World Bank pointed out, GDP per capita declined in many countries from 1973-1980.[33] Besides, external dependence increased for most LDCs, as it now applied to basic economic operations, on top of development capital. These worsening economic conditions therefore drew the attention of institutions such as World Bank, IMF, OECD etc. which now started to pay some serious attention to the problems of the affected countries. Most of these institutions, especially IMF and the World Bank, have been sending experts to LDCs to establish facts and prepare reports. Moreover, they have established departments in their organizations whose work is to research on LDCs. Publications such as the 'IMF Staff Papers' and the 'World Development Report' by the World Bank have become an important source of literature material for the LDCs. Apart from the latter institutions, a number of individual scholars have also started looking at the problem of budgeting in LDCs. Some of the scholars who have researched extensively and published about budgeting problems of poor countries include Caiden and Wildavsky.[34] Their research findings pointed out some terrible problems. In most LDCs, the authors remark,'the budgeters... do not know where they stand with respect to the basic features of national financial life,.... it may take two years or more before they know (within a reasonable margin of error) how much their government has spent.."[35] Other problems related to manipulation of budget data were unveiled by Nicole Ball. She studied the problem of measuring

Third World security expenditure. Her findings showed that significant amounts of security expenditure may not enter the budgets or the national accounts of many developing countries. Ball pointed out that the most common mechanisms used by governments to obscure their security related outlays included double bookkeeping, use of extra-budgetary accounts, use of highly aggregated budget categories, and government manipulation of foreign exchange.[36]

Other authors have started looking at the problem of recurrent costs in LDCs too. The recurrent costs problem has emerged as another big problem for many LDCs which are unable to put to use most of the installed capacity for lack of operating capital. Some of the scholars who have contributed to the research on recurrent costs problem include, inter alia, Gray and Martens,[37] Jennings,[38] and Heller[39] etc. All the authors concede that the problem exists in LDCs and that their causes lie in developmental policies pursued by both LDCs and their aid partners. The authors consider the effect of the problem to be devastating in the economies concerned.

While there has been a paucity of literature about budgeting problems in developing countries, the developed countries have for decades experienced an abundance of budgeting literature. As will be discussed in chapter 4 below, attempts to study systematically the growth of public expenditure in the developed countries have led to the emergence of various hypotheses. The trend for this development in hypotheses which explain the behaviour of public expenditure was set by Adolph Wagner who started writing as early as 1880s.[40] Other contributers to the development of theories of expenditure growth included economists such as Alan T. Peacock and Jack Wiseman in the

early 1960s.[41] However, as the problems of budgeting in the LDCs and IDCs alike continue to grow, new economic thinking has emerged which concentrate on public sector efficiency. Examples of such theories were mentioned in section III above, which included the supply-side economic theory. All these efforts to study the problems of fiscal policy in the IDC contribute further to the abundance in literature on public budgets. The developing countries will have to continue using the accumulated knowledge of the IDC while they try to develop hypotheses relevant to their own environment.

V SUMMARY

An attempt was made to outline the problem that needs to be studied. Trends in expenditure revealed an increasing size of the public sector, while the revenue side revealed that dependency on borrowings from both local and foreign sources has been growing. Moreover, it was pointed out that the excessive growth in budget deficits could be a reflection of the problems the government has been encopuntering in preparing the forecasts.

Before embarking on any major study, it is necessary that one should know what research work has been done on the problem in the past. It was pointed out above that there was little evidence of any analytical literature about the problem. It was further argued that the vacuum that exists in Tanzania is a common problem in the LDCs as found out by various scholars who have attempted to study the problem in various other countries. This situation therefore underlines the need to have some study done to at least expose the dynamics and the mechanics of the budgetary system in Tanzania. The desire for the study was motivated further by the fact that the public sector share in GDP has been on the rise, inspite of the adversities that the economy has been going through. The message is therefore clear: that is, the budgetary system should be studied carefully so that it can be known in no uncertain terms what basic control measures need to be instituted for proper functioning of the sector, which should eventually ensure an efficient allocation of the government resources and at the same time restrain the pace of growth of the public sector.

To achieve the study objective, two major issues will be dealt with in the study. The first issue to be tackled is that of identifying the factors which have been influencing the behaviour of both government expenditures and revenues in Tanzania. The identification process will certainly lean on the hypotheses (or theories) posited on the determinants of public expenditure and revenue behaviour. The second issue to be dealt with is that of detecting the extent to which the factors identified in the latter analysis have been used in the real situation. In other words, an attempt is made to link the practical side of budgeting in Tanzania with the hypothetical conclusions made. Eventually, the study should be able to point out the major weaknesses which ought to be rectified and secondly, point out the factors which ought to be emphasized in the budget making process, especially for forecasting purposes. The study will also examine other sideline issues such as the salient features of the economy and the recurrent cost problem in Tanzania. These have been considered separately to either enhance our appreciation of the environment under which the budgetary system operates, or to assist in underlining some of the issues raised in the other chapters.

NOTES

1.Ministry of Finance and Planning: Budget Speech 1978/79. Government worries about the growing recurrent expenditure were clearly expressed.

2 World Bank (1983) World Development Report p.148. Washington D.C. The World Bank.

3.The figure was computed by myself (author) from total expenditure figures for the period 1968/69 - 1982/83 using geometric mean technique.

4.Brown C.V. and Jackson P.M. (1978) Public Sector Economics p.122 Oxford; Martin Robertson and Company Ltd.

5.Ibid. p.134.

6.Green R.H. (1983) Political Economic Adjustment and IMF Conditionality: Tanzania 1974-81 In: William J. ed. IMF Conditionality, p.349. Washington D.C. Institute of International Economics.

7.Caiden N. and Wildavsky A (1974) Planning and Budgeting in Poor Countries p.301. New York John Willey and Sons.

8.See Weaver J.H. and Anderson A. (1981) Stabilization and Development of the Tanzanian Economy in the 1970s: In: Clive W.R. and Weintraubs eds. Economic Stabilization in Developing Countries p.350. Washington D.C. The Brookings Institution.

9.Caiden and Wildavsky (1974) op.cit. p.66.

10.Ibid pp.68-69

11.See for example, Mosley, P. The Making of Economic Policy. p.218 Brighton: Wheatsheaf Books Ltd.

12.Mushi S.S. and Kyeshus, H. eds. (1982) Aid and Development: Some

Tanzanian experience p.29 Oslo; Norwegian Institute of International Affairs.

13.Ibid p.28.

14.Ibid p.28.

15.Resnick Idrian N. (1981) The Long Transition: Building Socialism in Tanzania p.223, London. Monthly Review Press.

16.Premchand A. (1983). Government Budgeting and Expenditure Controls: Theory and Practice. p.7 Washington D.C. International Monetary Fund

17.ibid. p.25

18.ibid. p.25

19.ibid. p.26

20.ibid. p.27

21.ibid. p.27

22.ibid. p.28

23.ibid. p.28

24.Discussion held with a distinguished professor who is also an advisor to the Tanzanian Government.

25.Caiden et. al. (1974) op. cit. p.XII

26.Hinchcliffe K. and Allan B. "Public expenditure in Papua New Guinea: An Evaluation of Innovation "World Development Vol.11. No.11 (1983) p.958.

27.Mendoza H. "Deficiencies in our government budgeting and accounting system," in Perspective in Government Reorganization, Joe Abneva ed, p.225 Manila, University of the Philipines, 1969.

28.Leonard D.K., Cohen J.M and Pinckney T.C. "Budgeting and

financial Management in Kenya's Agricultural Ministries" Agricultural administration 14 (1983) p.106.

29. Green (1983) op.cit. p.378.

30.World Bank (1981) Accelerated Development in Sub-Saharan Africa. p.9. Washington D.C. The World Bank

31. Green (1983) op.cit. p.354.

32.Bird R.M. (1978) Assessing Tax Performance in Developing Countries: A critical Review of the literature. In Toye J.F.J. ed. Taxation and Economic Development pp.34-40 London; Frank Cass and Company Limited.

33..World Bank (1983) World Development Report op. cit.p.24.

34.See Caiden and Wilavsky (1974) op.cit.
This publication covered several countries in nearly all continents.

35.Ibid p.66.

36.Ball, N. "Measuring Third World Security Expenditure" A Research Note. World Development Vol.12 #2 1984 p.157.

37.Clive Gray and Andree Martens - "The Political Economy of the Recurrent Cost Problem in The West African Tahel" Journal of Development Studies Vol.11 No.2 1983. pp101-117.

38.See Jennings A. "The Recurrent Cost Problem in the Least Developed Countries" The Journal of Development Studies Vol. 19 No.4 1983.

39.See Heller P.S. 'Public Investment in LDCs with Recurrent Cost Constraint: The Kenyan Case" Quarterly Journal of Economics Vol. 28 May 1974 pp.251-272.

40.Musgrave R.A. and Musgrave P.B. (1984) 4ed. Public Finance in Theory and Practice p.136 London. Macgraw-hill Book Company.

41.Ibid. p. 152

CHAPTER 3

SOME SALIENT FEATURES OF THE TANZANIAN ECONOMY

I. INTRODUCTION

The chapter focusses on some important economic aspects of Tanzania. It concentrates on trends of economic activities over the most recent years.

The topic will be discussed under a number of subtopics. Section II looks at population, labour force and employment trends, while Section III looks at economic performance at an overall and sectoral levels. Section IV examines trends in balance of payments, while Section V examines trends in foreign debt. Section VI examines trends in gross capital formation. Finally there will be a summary that will provide a link with the other subsequent chapters.

II. POPULATION, LABOUR FORCE AND EMPLOYMENT

Population: The latest census of 1978 revealed that the country's population was 17.5 millions. Projections made on the basis of past growth rates suggest a population of about 19 million in mid 1981.[1] As Table 3.1 shows, population growth has increased in each decade and almost tripled since World War II. According to the World Bank, the 3.4% growth rate of the 1970s is expected to increase slightly in the 1980s. These rates are much higher than those of the group of low-income economies as a whole which stand at 1.9 and 1.7

per cent for the periods 1970-81 and 1980-2000 respectively.[2]

TABLE 3:1: POPULATION GROWTH RATES, 1948-1981

('000 and Percentages)

	1948	1957	1967	1978	1981#
Population	7744.6	9087.6	12313.5	175275	19300
Intercensal Growth Rate		1.8	3.1	3.3	3.4

Estimates

Source: ILO, JASPA, 'Tanzania: Basic Needs in Danger; Addis Ababa, United Printers, p. 63 Table 6.1

The growth rates indicated above are higher than the GNP growth rate for the period 1960-80 which was 1.9 per cent. (World Bank, 1983: p 148). However, the GDP growth rates for the periods 1960-70 and 1970-81 were 6.0 and 5.1 per cent respectively [World Bank: 1983, p. 150]. The implications of the variation between population and production rates are obvious.

Though national output (GDP) grew faster than population, however, the nationally retained output (GNP) could not cater fully for the faster growing population.

Labour Force: According to the 1978 Census figures the labour force is estimated to be 7.5 million. The latter was considered to be either working or searching for work.[3] The urban population (about

2.3 million) had a labour force of 1 million (43%).[4]

The labour force is basically agricultural. As can be seen from Table 3.2 below, wage labour is a very small proportion.

TABLE 3:2: ESTIMATED LABOUR FORCE COMPOSITION

1980 ('000s and Percentage)

	WAGE	NON WAGE	TOTAL
AGRICULTURE	152 (1.9%)	6719 (83.3%)	6871 (85.3%)
NON AGRICULTURE	404 (5.0)	795 (9.8)	1199 (14.8)
TOTAL	556 (6.9)	7514 (93.1)	8070 (100.)

Source: ILO op cit. p. 66 Table 6.1

This has far reaching implications for the public budget, especially revenue mobilization and the provision of basic needs such as education, health, clean water, better housing etc.

A sectorial analysis of the waged labour force indicates that the agriculture and public services absorb more than 50% (Table 3.3) Overall, between 1974 and 1980 wage employment increased by 2.3% per annum.[5] In the early 1980s employment continued to grow (see table 3.3) in spite of the economy being in severe recession.[6] While the share of some sectors eg. agriculture dwindled, others, notably public services and industries gained employment considerably. Though industries were operating at very low capacity, the rise in employment arose from, first, the retention of the already employed, and

secondly, employment in new investmentst.[7] The rise in employment in public services could be a source of great pressure for government spending, perhaps at the expense of other essential services.

Unemployment: According to ILO (op cit. p 68) clear estimates of unemployment in Tanzania do not exist. Studies on unemployment covering 1965-71 indicated unemployment for uneducated at 5.2%, primary school leavers around 7%, and post primary school leavers at 3.2%.[8] Some social factors help to explain this low unemployment rates. Heads of families take any job so as to support their large families. Consequently, their unemployment could be 3 to 4%, while that for dependants (mainly children and women) is 15 to 20%.[9] Moreover, as Hyden has pointed out, an unemployed worker still has the option to return to the land.[10]

TABLE 3:3: WAGE EMPLOYMENT BY SECTOR FOR THE PERIOD 1978-1982

('000 and Percentages)

PERIOD / SECTOR	1978		1979		1980		1981		1982≠	
	000	%	000	%	000	%	000	%	000	%
AGRICULTURE	141.6	27.7	128.0	21.5	131.0	21.8	129.6	20.3	137.1	20.3
MINING	5.6	1.1	5.9	1.0	5.9	1.0	7.0	1.1	7.4	1.1
MANUFACTURING	80.3	15.7	107.1	18.0	105.8	17.5	114.2	17.9	120.9	17.9
PUBLIC UTILITIES	16.4	3.2	19.8	3.3	19.4	3.2	21.1	3.3	22.3	3.3
CONSTRUCTION	46.1	9.0	50.6	8.5	48.2	8.1	49.8	7.8	52.3	7.8
TRADE	40.4	7.9	40.0	6.7	38.1	6.3	37.7	5.9	39.8	5.9
TRANSPORT	55.7	10.9	55.5	9.3	58.3	9.7	59.4	9.3	62.8	5.3
FINANCE	9.7	1.9	12.3	2.1	14	2.3	15.3	2.4	16.2	2.4
PUBLIC SERVICE	115.6	22.6	177.7	29.8	182	30.2	204.2	32	216.1	32.0
	511.3		596.9		603.2		638.3		675.3	
Total Change				17%		1%		6%		6%

≠ Estimates

SOURCES: 1. ILO op. cit. p. 66 Table 6.5

2. United Republic of Tanzania (1982). Economic Survey, p.49 Table 25. Dar es Salaam: Government Printers.

III. ECONOMIC PERFORMANCE

(a) Overall Performance

The general economic performance during the 1964-82 period was marked by a definite periodicity. In real terms GDP grew by 5% per annum between 1964 and 1969. Between 1969 and 1974 the growth rate was lower at 5%. During 1974-78 it rose to 6%.[11] and fell to a level of about 3%. between 1978 and 1979. But the ensuing period - 1980-82 was a one of crises,[12] with negative growth. In 1982 the decline was at the rate of -3.2%.

Table 3:4. Trends in Gross Domestic Product (GDP).

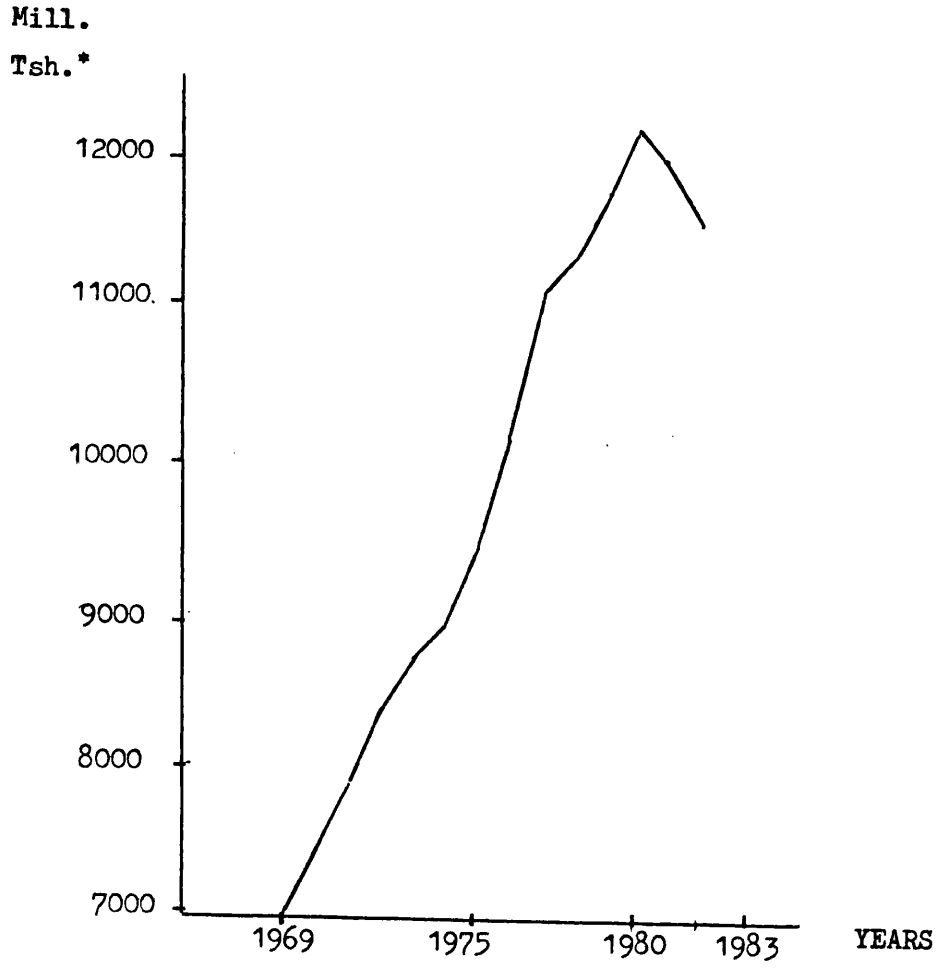
PERIOD	GDP* (Million Tsh.)	ANNUAL %TAGE CHANGE
1971	8001	4.2
1972	8539	6.7
1973	8800	3.1
1974	9020	2.5
1975	9533	5.7
1976	10163	6.6
1977	11061	8.8
1978	11253	1.7
1979	11607	3.1
1980	12014	3.5
1981	11812	-1.7
1982	11435	-3.2

* At 1966 Prices.

Source: United Republic of Tanzania. (Various Years). The Economic Survey. Dar es Salaam: Government Printers.

The fluctuations in the economy are presented in Table 3:4 above. Figure 3:1 shows it is possible to identify the periods when there was either accelerating or decelerating growth rates: The 1972-74 (slow growth); 1974-77 (rapid growth); 1977-80 (modest growth); and 1980-82 (sharp decline).

FIGURE 3:1: GDP TREND 1969-1982



* - In 1966 Prices

Tanzania's pattern of performance perceived reflected the general trend of developing countries, although Tanzania appeared to have been doing better than the others before 1980. According to the World Bank, the developing countries have been experiencing a continuous decline in the growth rate since the 1960s and the African low-income countries fared even worse,[13] as can be discerned from Table 3.5.

TABLE 3.5: GROWTH OF GDP IN DEVELOPING COUNTRIES BETWEEN 1960-1982 [AVERAGE ANNUAL PERCENTAGE GROWTH]

	1960-73	1973-79	1980	1981	1982*
All Developing Countries	6.0	5.1	3.0	2.0	1 .9
Low income-countries	4.5	5.1	6.1	3.7	3.7
African developing. countries	3.5	1.5	1.2	0.1	0.8
Tanzania	6.0	4.9	3.5	-1.7	-3.2

* Estimated

Source: World Bank, World Development Report, 1983

The factors contributing to Tanzania's performance have varied, and the government has had mixed success in dealing with some of its crises which have surfaced so often, although the underlying problems

remain. The country's economic instability can be linked primarily to its poor performance in the external sector, which in turn is affected perversely by agriculture's poor performance, the dominant sector in the economy, accounting for slightly less than 40% of GDP (see Table 3:6 below), and contributing to most of the exports.[14] In real terms agricultural production grew at about 3.6% per annum between 1966 and 1978 and then at around 1.5%.[15] The terms of trade for agricultural exports deteriorated quite severely in 1961-71, 1973-75, and 1977-81.[16] The average annual growth rate of the terms of trade for Tanzania between 1970-82 was -1.3%.[17] This coupled by declining export volume exposed the country to a number of balance of payments crises. Since 1967 the country has been experiencing a deficit in the trade account. Exports fell from over 100% of imports in 1966 to under 45% in 1982 (see Table 3.14). The country managed to avert some of the balance of payments crises by securing external resources, and cutting down on imports which could not be supported by external assistance, without really solving the problem of falling export revenues. The stalled negotiations with IMF beginning with 1979 cut off most foreign assistance and this precipitated the recession which began in 1980.

Besides the country's inability to generate external resources to finance operational inputs and investment capital, there have been a set of shocks which exacerbated the instability. The first shock was the increase in crude oil prices of 1973 and 1979. Between 1973 and 1979 the share of imported fuels in total imports rose 8% to 15.7%,[18] rising further to 21% in 1980.[19] The fuel's share in export earnings rose from 5% in 1971 to 55% in 1981/82.[20]

Meanwhile, the volume of fuel imported in 1981/82 was more-or-less the same as that of 1973, a situation which is very detrimental to the expanding economy.

The second shock that affected the economic performance perversely was the Uganda war of 1978.[21] The costs of the war stood at around US $700 million[22] and resources had unavoidably to be diverted from essential operational needs.

Thirdly, the break-up of the East African community in 1977 imposed significant economic burdens, particularly the cost of building up transport and communication services previously administered on a regional basis, and which were located either in Kenya or Uganda. The Uganda war and the closure of border with Kenya tended to exacerbate the severity of national adjustments required.[23]

Finally, the impact of poor weather on agricultural production in the 1970s the country suffered from two drought: in 1973-74 and in 1979-82.[24] Some studies have attempted to dismiss the idea that droughts had a significant impact on production. They even attempted to shown that rainfall in 1974 was well within normally adequate amounts.[25] Such judgements sound quite unrealistic. The unstable nature of rainfall in Tanzania was documented well by a World Bank Report on Tanzania in 1961.[26] Due to the size of the country, the weather is never uniform. Some few areas get stable and regular rainfall (eg. the highlands Kilimanjaro, Songea, Morogoro etc.) in the majority of the country with marginal rainfall the weather was so devastating. Many rural areas had to be supported by imported food stuff.

I have examined the actual performance of the economy without reference to its relation to planned performance, for obvious reasons. The state of planning in Tanzania has been well documented by Stein who concluded that the "primary thrust of annual planning is budgeting domestic and foreign development funds into particular projects". He pointed out that, although some unreliable projections were made for some sectors, there were no projections for aggregate GDP. This deficiency is attributed to shortage of manpower in the Dev Plan, and also a lack of reliable statistical base from which to generate the plans. Even the published actual national statistics are considered by Stein to be highly questionable.[27] The lack of projections of GDP has serious consequences upon the planning and control of both government expenditures and revenues. The implication is that both revenues and expenditures are projected with little bearing to the general economic trend. And in view of these doubts about the reliability of the data: using the latter as a base for projecting expenditures and revenues is bound to produce very unreliable estimates.

The precise procedures and bases used for the projection of revenues and expenditures are a subject of discussion in Chapters 8 to 11. Meanwhile, I shall examine the important productive sectors and their contribution to performance of the economy.

i. The Agricultural and Animal Husbandry Sector

This sector's performance over the past twelve years has been less than satisfactory. Since 1972, the ratio of the sector's real output to GDP has been declining from 40.1% to 33.4% in 1982 (see Table 3.6 and Figure 3.2 below).

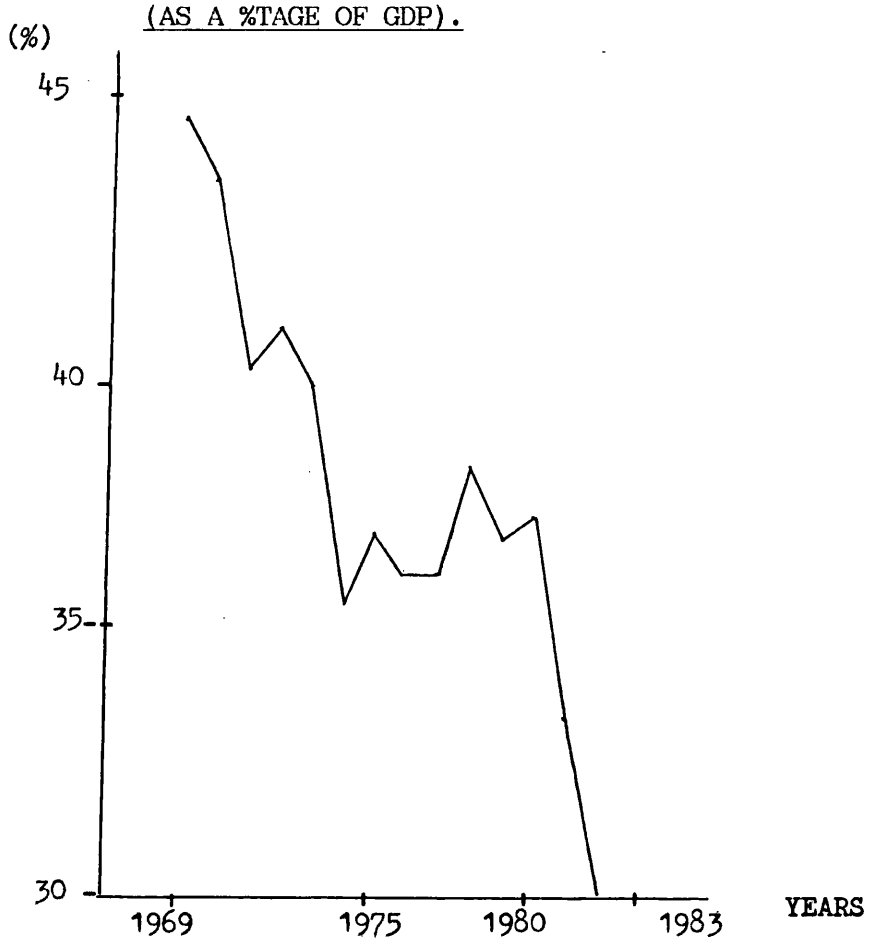
TABLE 3:6: AGRICULTURE AND ANIMAL HUSBANDRY OUTPUT

PERIOD	OUTPUT (Shs mill*	OUTPUT to GDP %	PERIOD	OUTPUT (Tshs mill*	OUTPUT to GDP %
1972	3425	40.1	1978	4326	39.4
1973	3458	39.3	1979	4357	38.7
1974	3315	36.7	1980	4560	38.4
1975	3596	37.7	1981	4184	35.4
1976	3772	37.0	1982	3819	33.4
1977	4104	37.3			

* On 1966 prices

Source: Ministry of Planning and Economic Affairs Report, 1982

FIGURE 3:2. AGRICULTURAL SECTOR PERFORMANCE



A number of factors account for the decline in agricultural output which can be categorized into three groups: those related to government policies ranging from pricing to transformational policies. The second category is that of general backwardness in Tanzanian agriculture, lastly, adverse weather and other minor factors affecting production.

While bearing in mind the limitations imposed by the declining terms of trade for our primary commodity exports, the national policy

for setting producer prices has had its toll too. Producers accepted the prices because they had to sell their produce through the state owned marketing companies such as the crop authorities (ie. for coffee, cotton, tea, tobacco and cashew nuts etc) and National Milling Corporation (ie for grains). The food crisis of 1974-75 after the severe drought of 1973-74, pushed the government into adopting agricultural policies which emphasized food-crop production, and consequently increased producer prices of food and subsistence crops relative to export crops.[28] On the other hand, the export crops continued to suffer from both fluctuating (and stagnating) prices in the international markets, and the policy to maintain an over valued foreign exchange rate. As can be seen from Table 3.7, although the prices of all agricultural crops declined between 1969/70 and 1981/82 in real terms, the export crops bore more of the fall.

TABLE 3:7: EVOLUTION OF PRODUCER PRICES 1969/70 (100)-1981/82.

	1969/70	1975/76	1978/79	1981/82
FOOD CROPS				
MAIZE	100	142	107	97
PADDY	100	96	81	87
WHEAT	100	87	77	75
SORGHAM	100	124	117	75
EXPORT CROPS				
COTTON	100	91	77	76
CASHEWNUTS	100	55	63	71
TOBACCO	100	68	51	55
TEA	100	65	77	50
PYRETHRUM	100	70	79	83

NB Nominal prices are deflated by the National Consumer Price Index which appears in Appendix 1.

Source: Adapted from Table 3.4: ILO (1982) op cit. p. 21

To sum up, the effect of the price changes was to increase the production of marketed subsistence crops very considerably; to reduce the production of food crops to some extent and the output of export crops by over one third.[29]

Secondly, the government's policy of Ujamaa villages initiated

in 1972 for rural areas had a negative impact on production. The villagization programme had emphasised communal production. The operation turned out to be costly in terms of time, misallocations etc., but most of all the peasants were more interested in private household plots rather than communal farms.[30] The idea of which never caught on. (Green, 1983 op cit. p. 355). But production had suffered already.

Another factor that has been a real obstacle to increased production is the backwardness of agricultural techniques still in use in Tanzania. Though the villagization programme was intended to clamp down on this serious condition, to a large extent, the problems remain unsolved. A study carried out in 1978 showed that 85 per cent of the acreage was cultivated by hoe, 10 per cent by animal drawn ploughs and 5 per cent by tractors.[31] Presently the per centage of hoe use could even be higher due to problems of maintaining and replacing the tractors and ploughs. The outocme of this agricultural backwardness is low productivity which culminates in decline in both food and export crops production. Any government policy which tends to emphasize more on one category of crops will inevitably lead to a death of the other mainly because the 'hoe' technology can not handle both within the limited period of growing season.

There are other factors as well which have combined with those mentioned above to reduce agricultural production. Production has suffered severely from successive years of serious drought[32] (see p.48). The country had to spend a lot of its foreign exchange reserves to cover the food supply shortage that arose. Table 3.8 indicates the magnitude of imported food grains in those years. The

fall in production is also observable from Figure 3.2 where the troughs of 1974-76 and 1980-82 are quite distinctive.

TABLE 3:8: IMPORT OF FOOD GRAINS BY TANZANIA 1972-81 ('OOOs tons) AND AS A RATIO OF TOTAL IMPORTS

PERIOD	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
As % of imports	12.9	10.4	21.4	19.5	10.9	11.1	7.4	4.8	13.2	9.0
TONS:	142	11	385	521	168	120	90	65	310	400

Source: Havnevik, K.J. et. al. op. cit. p. 60 Table 4
Wangwe, S.M. op cit. p 487 Table 5, Annual Economic Survey (Various Years).

Another factor which has been mentioned by Kleemeier is that of government's neglect of research and extension.[33] The literature relates to periods prior to 1970. However, a more recent assessment of research and extension in agriculture points to serious weaknesses in especially the structure of agricultural extension services thus reducing its effectiveness. Three problems were identified by ILO. The first is that the extension workers operate under too many institutions, a system that appeared to have resulted in rather poor communciation. Secondly, is the lack of focus in terms of well-

defined objectives and programmes and clear job description for its field worker. Finally, is the acute shortage of inputs which has blanketted the effectiveness of extension services [ILO (1982) op cit. p. 195]. So, in spite of the increased effort to develop more staff for the agricultural sector (ILO op cit. p. 197 in 1979 about 5,350 professional and technical staff were in the agricultural sector] their impact has been less effective.

Finally, a point that is often overlooked when considering the problem of agricultural production is that of nationalization of the large private farms. These nationalized farms have been suffering from the problems of organisation and management.[34]

In short, the general downward trend in this sector is not only a cause for alarm to the other sectors, but to itself as well. The shortall that is experienced in export earnings causes a 'vicious circle' manifesting in short supply of farm inputs, machinery, equipment, transport etc.

iii. Industrial Sector Performance

This sector's performance has not been satisfactory over the last few years. The sector suffered from the oil crisis and the drought of 1973/74 and 1979/80 which precipitated a balance of payments crisis causing a diversion of foreign exchange to meet the higher fuel costs and imports of food. The sector had done very well between 1961 and 1972 when its share in GDP had more than doubled from 3.5% (1961) to 10%.[35] After 1972 there was a deceleration from an annual growth rate of 8.4% in 1972 to 0.3% in 1975. The improvement in the balance of payments in 1976 and 1977 due to the coffee boom and

better management of foreign exchange followed by a liberalization of imports on the persuasion of IMF and World Bank[36] led to an improvement in the sector's performance. Annual growth jumped to 6.4 per cent in 1976 and 5.8 per cent in 1977. With the fading away of the coffee boom in 1978 coupled with the liberalization which had by now depleted the reserves, the balance of payments crisis set in again making it impossible for the sector to acquire all its input-requirements. As a result deceleration in annual growth became more pronounced. The balance of payments crisis became even more serious due to the Uganda War, the 1979 second oil price shock, and the 1979/82 drought causing massive imports of food supply. By 1979 the growth rate had fallen to -2.1 per cent and by 1982 it had declerated to -25.4 per cent.[37] The data for the period 1962 and 1972-82 is presented in Table 3.9 and Figure 3.3 below for further clarification.

The deceleration in the annual growth also meant a fall in the sector's share in GDP, from 10% in 1972 to 5% in 1982. For a modern society to have so little contribution from the industrial sector underlines the structural economic imbalances inherent in the system. In terms of the problem of government budgeting, especially revenue mobilization, such an insignificant contribution implies that there are problems in identifying tax handles which could contribute a significant amount of revenue.

TABLE 3:9: TRENDS IN INDUSTRIAL SECTOR OUTPUT

1962 and 1972-82 (at 1966 prices)

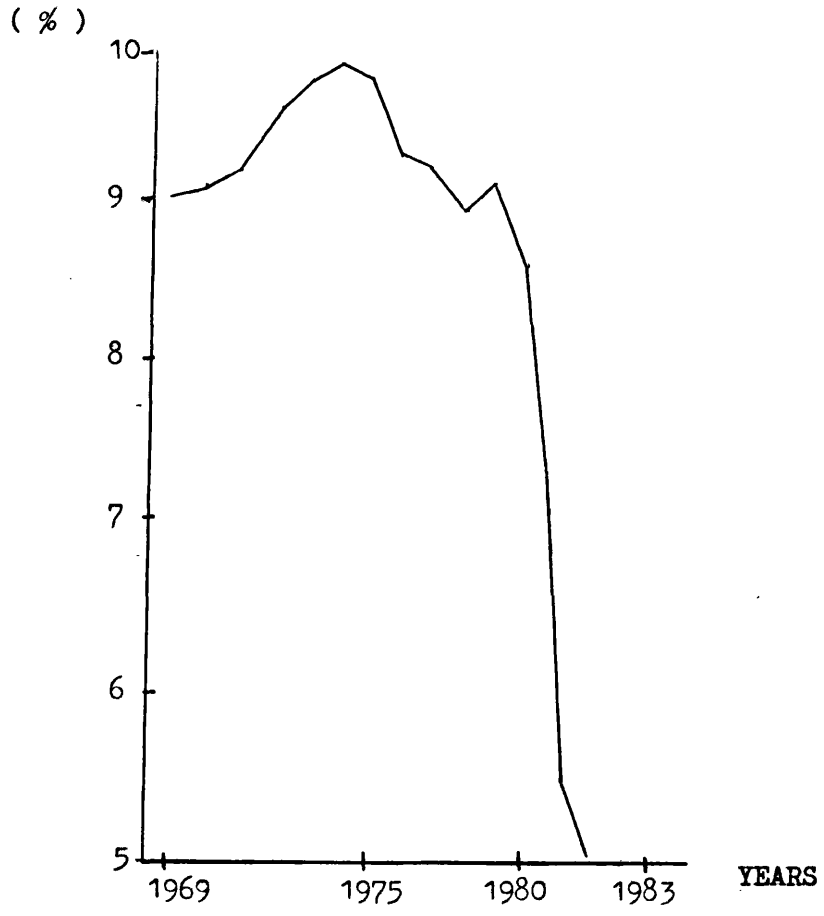
YEAR	OUTPUT (Tshs mill)	ANNUAL CHANGE (%)	SHARE OF OUTPUT IN GDP (%)
1962	**313**	**+10.8**	**3.7**
1972	850	+ 8.4	10.7
1973	888	+ 4.5	10.1
1974	900	+ 1.4	10.0
1975	903	+ 0.3	9.5
1976	961	+ 6.4	9.5
1977	1017	+ 5.8	9.4
1978	1051	+ 3.3	9.2
1979	1029	- 2.1	8.5
1980	893	-13.2	7.1
1981	648	-28.2	5.8
1982	568	-25.4	5.0

Source: (1) Annual Economic Surveys

(2) Wangwe, S.M. op cit. page 484 Table 1

FIGURE 3.3: TRENDS IN INDUSTRIAL SECTOR OUTPUT

(AS A PERCENTAGE OF GDP)



The sector's contribution towards exports has remained around 10 per cent of total exports. Between 1964 and 1975 the ratio fluctuated between 8 and 12% with an average of about 9.5%. By 1980 its share in total exports was just about 8%. The exported products comprised mainly of processed agricultural raw materials.[38] What then are the basic weaknesses which are in fact making the sector play a diminished role in the Tanzanian economy? The industrialization policies both inherited from the colonial government and adopted in post-independence period focussed on industries which semi-processed agricultural products and which were of an import substitution nature. The latter were totally dependent on imported capital goods, intermediate goods and raw materials.[39] However, it was a satisfying for the country to encourage such industries because its limited resources, especially skilled local manpower could not initiate local-resource based industries. Moreover, before 1975 a time when the government started looking at its industrial policies anew, the country had been able to finance most of its foreign input requirements with little difficulty. Viability of industries was decided on two criteria: they should creat employment, and the country should make a foreign exchange saving by local processing. After the shocks of 1973/74 in the form of the oil price hikes and food supply crisis the government started rethinking its industrial policy. In 1975 the government laid down a long-term industrial policy in a document called "Basic Industry Strategy: 1975-1995." The objective was to set up industries which would use more of locally available raw materials for the production of consumer, intermediate and capital goods primarily for the home market.[40] The policy has

never really been put into practice. Reports by the World Bank and ILO prepared in 1977 indicated that the industrial policy of the country was divorced from the long-term policy already articulated and adopted. The choice of projects and techniques of production had little relationship to any formal development plan or to the proclaimed goals of industrial development.[41] And yet, investment between 1975 and 1980 was 297.3 percent higher than that made over the same period of five years between 1969 and 1974. Table 3:10 gives more information. Though the new industrial investments covered products not produced locally before,[42] they however added to the already existing imbalance in resource allocation by joining the older ones in requesting for imports of raw materials and intermediate goods. For those industries which were covered by Wangwe's study, in 12 out of 16 industries, actual output in 1980 was below capacity output in 1976 indicating that whatever capacity was installed in the 1976-80 period did not benefit society.[43] By 1982 capacity utilization was 25-30 percent compared to 65-70 percent in 1977.[44] The contradictions which surface between policy, capacity installation and capacity utilization point to serious inadequacies at macro level planning. The Ministries of Planning and Economic Affairs, Industries, and Finance which coordinate macro-level investments appear to be quite weak at that job.

TABLE 3:10 INVESTMENT IN MANUFACTURING 1969-1980.

Year	Investment in Industry (Tsh in million)*	Share of Investment in Industries in Total Investment (%)
1969	151	13.2
1970	281	17.0
1971	266	13.4
1972	185	11.0
1973	204	11.8
1974	277	15.6
1975	294	17.9
1976	520	26.6
1977	719	37.2
1978	779	36.7
1979	962	36.9
1980	781	33.8

Source: Wangwe, S.M. op. cit. p. 486 Table 3

*1966 prices

The same weaknesses are exhibited by micro-level investment planners. Their feasibility studies must be highly inadequate otherwise the problems which have incapacitated other industries or investments would have been noted.[45] Besides problems of foreign exchange, other companies have been closing down because of problems of water and electric power supply, such as Mwanza Textile Industry and

Kilimanjaro Textiles.[46] There is no doubt, therefore, that the industrial sector has been weakened by poor management, inexperience in industrialization and inadequacy in research to support implementation of policies.

(iii) The Mining Sector

The mining sector's performance has been detereorating considerably, thus making its contribution to GDP almost nil. The sector is considered to be important to the economy because of its potential to earn foreign exchange. In the past ten years, the sector's contribution declined from 1.4 percent in 1972 to 0.6 percent in 1982. Table 3:11 below gives the trend picture.

The sector's poor performance has resulted from a number of weakening factors. First there are problems related to the balance of payments crisis. In most of the old mines maintenance of the old machines and their replacement have not been done efficiently because of lack of foreign inputs. Secondly, after the government nationalized the existing mines such as the Diamond mines, it found itself in a position whereby it could not open new mines because of lack of skilled and experienced mining technicians, engineers and managers.[47] And because of its nationalization policy, potential external investors were certainly scared off. Raising financial resources from outside was also a problem. This situation led to a decline of the sector.

TABLE 3:11 TREND IN MINING SECTOR OUTPUT 1972-1982

YEAR	OUTPUT (Tsh. mill.)*	ANNUAL Change(%)	SHARE OF OUTPUT in GDP (%)
1972	119		1.4
1973	91	-23.5	1.0
1974	88	- 3.3	1.0
1975	73	-17.0	0.8
1976	95	+30.0	0.9
1977	104	+ 9.5	0.9
1978	70	-32.7	0.6
1979	81	+15.7	0.7
1980	69	-14.8	0.5
1981	74	+ 7.2	0.6
1982	72	- 2.7	0.6

* In 1966 prices

SOURCE: Annual Economic Survey.

(iv) Other Sectors

Performance in these other sectors which are heavily biased towards services has been mixed. Some, such as water and electric supply, transport and communication, etc have had an encouraging performance in the past ten years. Others such as construction, commerce and tourism, and financial institutions have suffered a decline, especially in the most recent five years. These sectors suffered also from the imbalances of the external account, the industry and the agricultural sector. However, there are some specific weaknesses in each sector which made their contribution to the country's economic prosperity remain just marginal.

Transport sector: The problems which face this sector are a combination of technical, managerial, operational, financial and so forth. Poor management in the operation of institutions like Dar es Salaam Port and Air Tanzania Corporation (ATC) made the country lose a lot of foreign exchange. The export-import trade for Tanzania was affected adversely because of port mismanagement. ATC was near collapse due to mismanagement in leasing the planes, making maintenance, and control of traffic. Also there was poor allocation of vehicles to the nation which never took into consideration their economic and efficient use. For example, the public sector got many vehicles which were not put to optimal use. The latter sector got buses which were used to ferry workers to working places and residence but not put to use after that service while the public in general was getting insufficient transport from the public transport corporations and the private transport operators. Other problems of lack of

reliable statistics for administrative and planning purpose added to the deficiencies of the sector.[48]

I do not have to list the problems of the other sector because they repeat those mentioned above. There are some serious structural problems in the economy which have created a number of macro-imbalances which make it impossible for any particular sector of the eoconomy to operate efficiently.[49] One has a vicious circle of problems which keep on shifting from one sector to another and occasionally bringing one sector or another to a halt. Table 3:12 gives Trend figures for these other sectors.

TABLE 3:12: TRENDS IN OUTPUT OF VARIOUS SECTORS* 1972-1982

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	'82
PUBLIC UTILITY	1.2	1.3	1.4	1.5	1.3	1.3	1.5	1.7	1.7	1.8	2.0
CONSTRUCTION	4.7	4.7	4.6	4.1	3.5	3.2	3.2	3.5	3.5	4.3	4.2
TRANSPORT	10.2	10.3	10.6	10.2	10.1	10.6	10.8	10.5	10.7	11.1	11.9
COMMERCE/TOURISM	11.6	11.8	11.8	11.2	10.7	10.7	10.1	9.9	9.7	9.5	8.6
FIN. INSTITUTIONS	10.6	10.2	10.3	9.8	9.3	9.0	9.4	9.4	9.2	9.8	10.5

* As a ratio of GDP - using 1966 prices

Sources: Annual Economic Survey 1982

IV FOREIGN TRADE

Tanzania is basically an exporter of primary products of agricultural and mineral type. The main crops exported from Tanzania include coffee, tea, tobacco, cotton, sisal, cashew nuts and pyrethrum. Minerals include diamonds, gold, tin concentrates and salt. Few manufactured products are also exported. It was mentioned above that most of the manufactured exports are semi-processed agricultural products, which account for about 8% to 10% of total exports.

On the other hand, Tanzania's imports comprise mainly of petroleum products, machinery, transport equipment and intermediate inputs. The latter items claim more than 66% of the imports. The rest 34% goes to food and other consumer goods imports. Table 3.13 indicates the structure of imports under the major categories, for 1972-80..

TABLE 3: 13: STRUCTURE OF IMPORTS 1972-1980 (% of total)

YEAR	FOOD	PETROLEUM AND PETROL PRODUCTS	MACHINERY	TRANSPORT EQUIPMENT	INTERMEDIATE INPUTS	OTHER CONSUMER GOODS
1972	12.9	10.4	20.2	10.8	25.1	16.6
1973	10.4	12.0	19.0	12.2	32.3	14.0
1974	21.4	11.9	14.8	9.5	26.8	15.5
1975	19.5	11.9	19.8	11.0	22.5	15.4
1976	10.9	18.6	22.4	10.6	23.5	14.0
1977	11.1	13.8	25.7	11.4	22.4	15.7
1978	7.4	11.9	29.4	14.5	22.8	13.9
1979	4.8	11.3	31.0	16.9	21.8	14.2
1980	13.2	21.1	23.4	11.5	16.3	14.3

Source: Wangwe S M op cit p 487 table 5

Overall, Tanzania has been performing poorly in the foreign trade sector. And because the resources flowing from this sector are vital for good performance of the other sectors, the imbalances experienced in this sector have also spread to other sectors.

The export ratio, both in terms of GDP and imports, has been getting worse in the past 10 years. As can be seen from Table 3:14, the exports share in GDP shrank from 23% (in 1972) to about 8% in 1982, while imports maintained their share in GDP at a level higher than 20% during that period. Worse was the ratio of exports to imports which shrank from 80% (in 1972) to 42% in 1982. The gap between exports and imports has been increasing as is shown further by the balance of payments deficits appearing in Table 3:15. Yet, a number of sectors are operating far below their capacity because their foreign supplies demands can not be met out of the current level of imports.

TABLE 3:14: EXPORTS AND IMPORTS FOR THE PERIOD 1972-82

YEAR	EXPORTS (Tshs million)	EXPORTS AS % of GDP	IMPORTS (Tshs million)	IMPORTS AS % of GDP	RATIO OF EXPORTS TO IMPORTS (%)
1964	1613.9	28.9	1255.5	22.4	128.6
1969	1751	23.5	1710	22.9	102.4
1972	2312	22.8	2877.8	28.4	80.3
1973	2581	22.3	3478.9	30.1	74.2
1974	2860.8	20.4	5377.0	38.4	53.2
1975	2764	16.3	5710	33.6	48.4
1976	4108	23.3	5350	30.4	76.8
1977	4464	18.8	6161	25.9	72.4
1978	3671	11.9	8798	28.5	41.7
1979	3980.5	11.6	8986	26.3	44.3
1980	4187	11.0	10003	26.3	41.9
1981	4372.8	10.5	9120	21.9	47.9
1982	3484.4	7.8	8392.1	19.0	41.5

Source: IMF (1983)
Annual Economic Survey 1982
Bank of Tanzania: Economic Bulletin

Table 3:15. Tanzania's External Current Account Balance.

PERIOD	BALANCE.*
1969	223.7
1970	-251.1
1971	-603.7
1972	-314.2
1973	-754.1
1974	-2038.5
1975	-1704.0
1976	-346.5
1977	-579.8
1978	-3645.2
1979	-2830.4
1980	-4931.5
1981	-4167.8
1982	-6111.0
1983	-5525.9

* Tsh. in Millions.

Source: United Republic of Tanzania, (Various Years). The Economic Survey, Dar es Salaam: Government Printers. Also Bano, S. (1984). Tanzania's Balance of Payments. In Msambichaka, L.A. and Chandrasekhar, S. eds, p.139 Readings in Economic Policy of Tanzania. University of Dar es Salaam.

This poor performance could be explained by a number of factors, some of which are endogeneous to the economy, while others are external. First, exports have been declining. The indices appearing below help to demonstrate the drop experienced for reasons already discussed under Agricultural sector performance.

TABLE 3:16: INDICES OF EXPORT VOLUME.

PERIOD	1966	1973	1974	1975	1976	1977	1978	1979	1980
All crops[S]	134	137	101	108	117	93	90	94	87
Coffee				100	106	80	93	83	94
Cotton				100	149	106	100	105	124
Sisal				100	91	72	80	81	55

s - 1976/78 is the base period

- 1975 is the base period

Source: Havnevik K. J. et. al. op. cit. p. 65 table 8.

Also IMF International Financial Statistics.

Secondly, the country's policy over its exports was not dynamic enough. Much reliance was placed on agricultural products (but without due support to the sector) without looking into the possibility of having the industrial sector take over a significant share. The management of industrial and commercial enterprises were biased to serving the internal market, and paid little consideration to the external market. Thirdly, terms of trade in the international

markets have contributed to the balance of payments crisis. Prices for most commodities fluctuated considerably. As pointed above, Tanzania's average annual growth rate of terms of trade during the 1970-82 period was - 1.3%. Table 3:17 gives a wider picture of terms of trade for various categories of products.

TABLE 3:17: TREND OF TRADE PRICES IN CURRENT DOLLARS 1965-1982

(Average Annual Percentage Change)

	1965-73	1973-80	1981	1982
Non-fuel Primary Products	7.0	6.6	-7.0	-12.0
Fuels	7.5	32.8	12.5	-3.8
Manufactures	5.1	11.0	-4.8	-2.1

Source: World Bank. (1983) World Development Report 1983.

Lastly, the structure of imports presented above (Table 3:13) point to some irregularities in external resources allocation which has exacerbated the crisis. While the most serious bottleneck in the industries is the lack of intermediate inputs, the data on Table 3:13 show that the capital goods group has continued to receive a greater share of the imports, thus increasing capacity underutilization. The inadequacies of annual planning have already been pointed out Since the exports are just about half of the imports (Table 3:14), the excess imports must have been financed through loans and grants. This bias towards capital goods reflects the Donor-aid giving conditions

which hitherto emphasized new projects rather than on-going programmes (World Bank, 1984, op cit pp 46-47). Therefore, the demand for more imports was being created without taking into account the export limitations of the country.

V FOREIGN DEBT

Tanzania has been drawing quite a considerable amount of external funding for its development. Most of the funds have been harnessed under the umbrella of the government, implying that all the debt is public or public guaranteed. The volume of debt outstanding is as appears in Table 3:18 below, column 1. When the debt is compared to GNP, we observe that there was a significant growth between 1970 and 1976, ie. a rise from a ratio of 21.6% to 32.8% respectively, but declined thereafter to a level of 25.3% in 1981. In 1982 it rose again to 34.5%. However, when the debt is compared to exports in column 3, we get quite scaring results. The ratio rose from about 80% in 1970 to 314% in 1982. The latter implies that the country has been increasing its borrowing without really increasing its ability to pay through increased exports. From column 5 of Table 3:18 the debt service ratio (to exports) is seen. Before 1980 the ratio remained reasonably low (average of 6.1%), but afterwards the ratio can be seen rising rather sharply, reaching 21.7% in 1982. This phenomenon is not surprising because, first the export sector has not been performing well as was seen above (pp 67), and secondly, the debt service has been growing mainly because most of the loans which were taken in the early seventies had an average grace period of about 7.5 to 9.4 years.[50]

Table 3:18 FOREIGN DEBT OUTSTANDING & DEBT SERVICE

	Col I	Col 2	Col 3	Col 4	Col 5
	TOTAL DEBT#	DEBT/GNP	DEBT/EXPORTS	DEBT SERVICE$ (DS)	DS/ EXPORTS
	(Mill.of US$)	(%tage)	(%tage)	(Mill.of US$)	
1970	248.5	21.6	79.9	15.7	5.0
1971	307.8	24.9	90.5	16.8	4.9
1972	368.9	23.7	89.6	47.7	11.6
1973	463.7	28.3	106.4	31.9	7.3
1074	621.5	27.8	127.2	23.4	4.8
1975	797.6	34.8	165.4	26.4	5.5
1976	907.5	32.8	143.4	27.7	4.4
1977	1100.2	31.3	167.2	36.1	5.5
1978	1141.7	26.2	182.1	38.2	6.1
1979	1203.	27.0	173.2	39.1	5.6
1980	1360.3	27.6	189.2	51.5	7.2
1981	1476.1	25.3	204.1	107.1	14.8
1982	1631.6	34.5	313.8	112.6	21.7

Total Debt stands for Total Debt disbursed and outstanding

$ Debt service stands for principal and interest payable on outstanding debt.

Source: World Bank (1982/83) World Debt.

International Monetary Fund IFS 1982

United Republic of Tanzania (Various Years). The Economic Survey. Dar es Salaam: Government Printers.

The loans taken by Tanzania were mainly from official sources[51] with only a small proportion in hard loans [52] which were used mainly to finance the direct productive investments such as industries, hotels, hydro-electric power stations and plantation acquisitions etc. The yearly average interest rate for the priod 1972 to 1981 ranged between 2.2% and 4.7%. And as can be seen from Chart 3;1 a large proportion of the loans had interest rates between 0 and 3%. The grant element in these loans is quite high, the yearly averages ranging between 37.8% and 67.2% during the 1972-81 period. The maturity years have been quite high with yearly averages ranging between 24.6 and 39.5 years.[53]

Various methods of transferring the foreign resources to Tanzania have been used. As can be seen from Table 3:19, albeit for a few years when data was available, most of the funds were channelled through the project programme, followed by the general imports support programme.

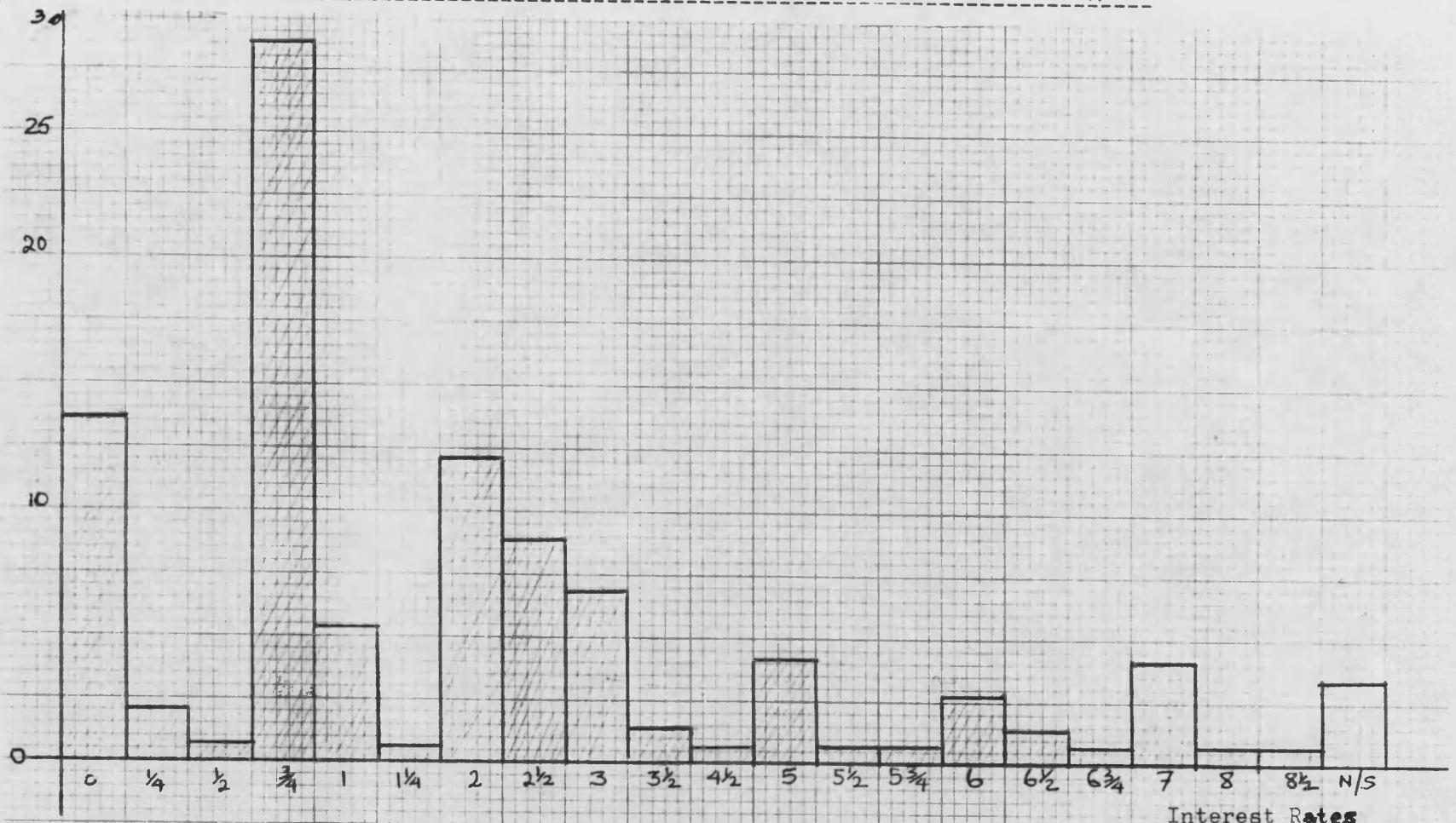
TABLE 3:19. COMPOSITION OF AID TO TANZANIA (in %)

AID TYPE	1979		1980	
	Grants(%)	Loans	Grants (%)	Loans
Project Aid	59	76	60	48
General Imports	21	18	21	30
Food Aid	5	6	6	6
Technical Assistance	15	-	13	-
Commercial Credits	-	-	-	16

Source: Adapted from Mushi & Kyeshus op.cit. table 3 p. 22

Note: Programme aid may have been included in general imports.

CHART 3:1. **FREQUENCY** OF INTEREST RATES ACCEPTED BETWEEN 1969/70 and 1979/80



N/S Interest Rates Not Stated.

SOUIRCE: United Republic of Tanzania (Various Years). Appropriation Accounts.

Finally, a few comments about the implication of the foreign debts to the government budget: overall the government has been prudent enough to avoid hard loans which could drain massive resources from the country. Nevertheless, the current trend of the outstanding loans and the due debt service vis-a-vis the exports trend does not present any feeling of relief. The small interest that has to be paid will certainly demand a large share of the foreign resources earned by the country by exports. And in view of the fact that the non-interest budget has to use external resources as well, the implications are obvious.

VI. Gross Capital Formation (GCF)

The gross capital formation (GCF) fell to 3.7% in 1970-81 period from 9.8% in the previous decade.[54]

When GCF is examined in relation to GDP, the percentage of GCF to GDP increased substantially between 1960 and 1981. In 1960 it was 14 percent while in 1980 it had grown to 22%. When the latter is compared to the average for the low-income economies, Tanzania appears to be performing below average. The 1960 and 1980 group averages were 19% and 24% respectively. [55]

Looking at the more recent ten years, the ratio of GCF and GDP has remained between 22% and 27% as appears on Table 3:20.

Table 3:20 TRENDS IN CAPITAL FORMATION BETWEEN 1978 & 1979 (in %)

Year	Col.I Monetary GCF to GDP	Col.II Govern't to GDP	Col.III Pa'stal to GDP	Col.IV Private Monetary to GDP	Col V Private Non-Mon to GDP	Col. VI Govern't to Total Mon,GCF	Col VII Pa's'tal to Total Mon,GCF	Col. VIII Private Monetary to Total Mon,GCF
1972	22	4.9	13.0	4.7	2.3	22.2	59.0	21.2
1973	21.9	4.5	11.4	4.8	2.2	20.6	52.0	22.2
1974	23.2	5.5	9.2	5.3	2.0	23.6	39.7	22.6
1975	21.8	5.4	7.5	6.3	1.8	24.8	34.5	28.9
1976	25.2	6.1	6.5	11.0	1.9	24.4	25.9	43.5
1977	22.2	5.3	4.8	10.2	1.6	24.0	21.5	46.0
1978	22.0	5.0	4.5	9.8	1.4	24.1	21.2	46.5
1979	23.3	6.5	3.8	11.0	1.4	27.9	16.1	47.3
1980	20.9	6.7	4.1	8.6	1.4	32.2	19.4	41.1
1981	22.3	6.4	4.0	10.3	1.5	28.8	18.1	46.4
1982	20.0	5.5	4.1	9.1	1.7	27.3	20.4	45.3

GCF - gross Capital Formation; Govern't - Government;

Pa's'tal = Parastatal; mon = monetary.

Source: Annual Economic Survey - Various years.

There is no distinguishable pattern observable. The GCF has been decomposed into sectorial contributions, and the data appear on Table 3.20 as well. The sectors considered are the government, the parastatal organizations, and the private monetary sector. These sectors' share of GCF is considered just as a ratio of GDP. The government's share remained fairly stable, remaining within a range of 4.5% and 6.7%. The parastatal's share to GDP (Col.III) clearly points to a declining trend, beginning with a share of 13% in 1972 and finishing with 4.1% in 1982. This trend demonstrates the effort taken by government in the early 1970s to set up industries and all other forms of institutions which were considered essential for the development of the country. On the other hand, the private monetary sector (Column IV) managed to double its share from 4.7% in 1972 to about 10% in 1982. The latter situation implies that the public sector and the private sector have been contributing almost equally to the capital formation in the late 1970s and early 1980s. This is also the impression one gets when each sector's share of the total GCF is considered, as appears in Column VI to VIII. Initially the public sector was contributing about 80% but towards the end of our study period (1982) its share had declined to just about 50%. The rest went to the private sector.

However, the pattern of capital formation that has been discussed above has some serious effects on the economy as a whole. The general pattern has been seen to be one of government sector maintaining its share, the parastatal sector losing its share, while the private sector has gained considerably . Since the government's socialist policy requires that major investments be undertaken by the

parastatal sector, the loss in share of this sector implies that vital investments in the country are not being undertaken. The increase in dominance of the private sector implies a greater proliferation of petty (possibly family owned) businesses in the country which would not be within the national economic plans. Thus, the idea of a centrally planned economy is undermined. Besides, these petty businesses are a problem to government in as far as fiscal plans are concerned. Due to the fact that the small businesses don't prepare reliable accounts; such situation will certainly make difficult the task of estimating revenues. On the other hand, the government's ability to maintain its share during the period means that a sizeable amount of resources were committed to non-direct productive activities, which, on apriori ground, could be said to continue demanding more resources for their operation and maintenance. This is a clear indication of potential problems in the budget because the productive sectors do not appear to be supported enough so as to be able to provide resources to the consequential government needs.

VII SUMMARY

The chapter has highlighted the salient features of the economy. In spite of a number of crises, related mainly to balance-of-payments problems, severe drought and a war, the economy had managed to maintain a reasonable amount of growth until 1980, when it started to experience a real decline. An account of sectoral performance was made, so as to show the extent to which the macro-trend is influenced by each one of them. The agricultural sector was seen to have been experiencing poor performance, the cause of which was partly poor policy measures taken by the government, especially on producer prices and reorganisation of the rural communities, but also the impact of frequent droughts and shortages of essential inputs. On the part of industrial sector, performance was also poor, and the main contributing factors were seen to be poor industrialization policy which emphasized import substitution as opposed to export-orientation, and secondly, lack of imported inputs which crippled the industries. The mining sector's performance was the worst of all. The causes for the decline being lack of skills and technology, especially after the nationalizations. Thus, as Weaver et al (op.cit.p339) point out, much of the increase in GDP came from expansion of services, particularly of public administration. The rate of domestic saving and investment was high, but the resulting output was disappointing.

The implications of this dismal performance by the key sectors on the government budget could be quite grave. The fall in agriculture implies a fall in exports, which in turn affects imports. Thus the tax handles for export duties and import duties are eroded. And of course the instability experienced by the sector implies a hard

task for the revenue forecaster. On the part of industrial sector the decline has also far reaching complications on the revenue mobilization. The tax bases associated with such industries are depleted so long as the establishments do not break even. The latter makes the task of forecasting revenues very difficult. On the part of the mining sector, its disappearance also affects the budget, particularly in view of the fact that it could have been one of the easiest sector to tax.

Finally, Tanzania's debt situation was reviewed. Both debt and debt service were perceived to be growing at an alarming rate in relation to exports. Although the government had refrained from securing high interest bearing loans, which could tie up a significant portion of the budget, nevertheless, the fact that whatever little has to be paid to foreign creditors must be in hard currency earned through exports, the crippling impact that such debts have on the government budget is just the same. The budget will be disrupted for lack of foreign exchange to support import-oriented expenditures.

The points highlighted in this chapter cast a rather gloomy picture over the task of determining the budget. The problem is further enhanced by the lack of plans or projections prepared for the whole economy or for the sectors. This deficiency could impose a severe limitation on the forecasting of revenues and expenditures, and hence their control. The latter will be the subject of discussion in the chapters to follow.

Notes

I.ILO (1982), Tanzania: Basic needs in Danger pp.64-5. Addis Ababa, United Printers.

2.World Bank (1983) The World Development Report p.184 Washington DC, The World Bank.

3.The labour force figures were computed from the population of persons considered to be of working age, which amounted to 9.5 million. The authors applied the 1967 census labour force participation rate (LFPR) on the 1978 census's population of working age. The LFPR for 1978 were not available from the Bureau of Statistics see ILO (1982) op.cit. Table 6.2.

4.Ibid. pp65 and 70.

5.Ibid p.67.

6.United Republic of Tanzania (1983), The Economic Survey 1982 p.46. Dar es Salaam, Government Printers.

7.Ibid. p.46.

8.As pointed out by Green, in recent times, unemployment has remained relatively low (8-10% urban). See, Green R.H. (1983) Political-Economic Adjustment and IMF Conditionality; Tanzania 1974-81: In Williams J ed. IMF Conditionality p.352 Washington DC: Institute of International Economics.

9.ILO (1982) op.cit. p.69.

10.Hyden,G.(1980), Beyond Ujamaa in Tanzania p.162 London, Heinemann.

11.Weaver J.H. and Anderson A. (1981) Stabilization and Development of the Tanzanian Economy in the 1970s. In: Cline W.R.and Weintraub S. eds. Economic stablization in Developing Countries p.339, Washington DC. The Brookings Institution.

12.Green (1983) op.cit. p.352.

13.World Bank (1983) op.cit. p.7.

14.Weaver and Anderson (1981) op.cit. p.341.

15.Ibid p.339

16.Green (1983) op. cit. p.335.

17.The World Bank (1984) Towards sustained Development in Sub-Saharan Africa p.67 table II. Washington DC. The World Bank.

18.Harnevik K.J. and Starstein R. 'Agricultural Backwardness and Foreign Aid in Tanzania' Journal of Social Studies Vol. 22 (1983) p.58.

19.World Bank (1983) op.cit. p.168.

20.Mushi S.S. and Kyekshus eds (1982). Aid and Development some Tanzania experience. pp 18-19 Oslo, Norwegian Institute of International Affairs.

21.Arkadie B.V. (1983) The IMF Prescription for Structural Adjustment in Tanzania: A comment. In: Jansen K ed. Monetarism and Economic Crisis and the Third World. p.129. London: Frank Cass and Company Limited.

22.Green R.H. and Singer H. "Sub-Saharan Africa in Depression: The impact on the Welfare of Children" World Development Vol. 12 No.3 (1984) p.292.

23.Mushi S.S. et. al. op.cit. p.18.

24.Green and Singer (1984) op.cit. p.292.

25.Weaver et.al (1981) op.cit. p.362.

One of the studies cited by the authors was by Lofchie who endeavoured to demonstrate that the fall in production was related to bad policies pursued, rather than drought. He argued

that the attempts to establish communal agriculture in the Ujamaa villages and the failure to encourage production of traditional export crops underlined the fall in production.

26.See The International Bank for Reconstruction and Development (1961).The Economic Development of Tanganyika p.16. Baltimore. The John Hopkins Press.

27.Stein H. "Planning and the Crisis in Tanzania" Paper presented at the seminar, University of Dar es Salaam (May 1982) pp.14-21.

28.Havnevik K.J. et.al. (1983) op.cit. p.62.

29.Ibid p.63.

30.Ibid pp.66-7

31.Ibid p.66.

32.Green and Singer (1984) op.cit. p.292.

33.Kleemeier L. "Domestic policies V. Foreign Assistance in Tanzania." The Journal of Development Studies Vol.20#2 Jan. 1984. p.183.

34.Tibaijuka A.K. and Msambichaka L.A. (1984) The Role of Large Scale Farming in Tanzania. In: Msambichala L.A. and Chandrasekhar S. eds. Readings of Economic Policy of Tanzania. pp.71-72 Dar es Salaam; Economic Research Bureau, University of Dar es Salaam.

35.Wangwe S.M. "Industrialization and Resource Allocation in a Developing Country. The case of recent experiences in Tanzania" World Development Vol.11 No.6 pp.283-4.

36.Payer C. "Tanzania and the World Bank" Third World Quarterly Vol.5. No.4 1983 pp.797-8.

37.Bank of Tanzania "Economic Bulletin" Vol. III No.3. Dec. 1975

pp.43 and 45. The computation of %tages has been done by author.

38.Havnevik K.J. et. al. (1983) op.cit. p.64.

39.Perkins, F.C. "Technology Choice, Industrialization and Development experiences in Tanzania" The Journal of Development Studies Vol.19 No.2. 1983 p.215.

40.Ministry of Planning and Economic Affairs (1982). Structural Adjustment Programme p.23. Dar es Salaam Government Printers.

41.Perkins F.C. op.cit. p.236.

42.By the way, the economic structuring that has been going on has enabled Tanzania to produce almost all consumer goods used in the country except cars and refrigerators.
See Green (1983) op.cit. p.353.

43.Wangwe S.S. op.cit. p.488.

44.Green R.H. et.al. op.cit. p.292.

45.The problems of planning in Tanzania at both macro and micro-level have ben outlined in detail by Stein. The following excerpts are sufficient to illustrate his impressions...."... the annual plans are primarily a list of projects that have been negotiated outside Dev- Plan. ...project appraisal.... has been poorly done leading to acceptance of highly questionable projects".
See Stein (1982) op.cit. p.14.

46.United Republic of Tanzania (1983), The Economic Survey 1982, op.cit. p.94.

47.Ibid p.90.

48.Ministry of Planning and Economic Affairs, (1982). SAP, op.cit. pp.29.

50.World Bank, World Debt Tables 1982/83, p.99. Washington DC. The

World Bank.

51.Ibid p.98.

52.Weaver and Anderson (1981) op.cit. p.353.

53.World Bank, World Debt Tables, 1982/83 op.cit. p.99.

54.World Bank (1983) op.cit. p.154.

55.Ibid. p.156.

PART 2.

In this part the analysis proceeds to, first, explore hypotheses which have been postulated about the behaviour of expenditure and revenues, and secondly, examine these hypotheses empirically using Tanzanian data. Those hypotheses considered to be relevant to the Tanzanian environment are stressed, and the variables which appear to be influential in explaining the pattern of expenditures and revenues are the ones explored further in part 3. Thus, in chapter 4 the hypotheses are discussed in detail. In chapter 5 an analysis of the expenditure pattern is carried out. In chapter 6 the behaviour of revenues is analysed.

CHAPTER 4

POSSIBLE DETERMINANTS OF GOVERNMENT EXPENDITURE AND REVENUES: A REVIEW OF VARIOUS HYPOTHESES.

I. INTRODUCTION;

The focus of this chapter is to explore the hypotheses so far postulated to explain the behaviour of government expenditure and revenues, with an intention of identifying those ones which are appropriate for use in the Tanzanian case. Moreover, we shall move beyond those factors which have been examined for their influence on public expenditure and revenues in the past, by identifying other factors (hitherto not considered seriously) which have some influence as well. The underlying reason for carrying out this search is to identify those variables which could be used to forecast accurately both expenditure and revenues so as to improve budget control. In so doing, we are in fact trying to respond to some of the questions or issues raised in Chapter 1 p.6 above.

The more familiar expenditure hypotheses will be discussed in section II in general terms without relating them to the type of economies they would apply. The association of the hypotheses with any particular system of economy is done in subsequent sections. For the purpose of this discussion, the world economies are categorized into two groups, namely, the Industrially Developed Economies (IDC) and the Least Developed Economies (LDC).

In section III the hypotheses which explain the behaviour of revenues in LDC are examined. Some special consideration is given to the 'degree of openness' hypothesis which has received some emphasis

from various authoritative sources and which purports to provide a significant explanation of the behaviour of revenues in LDCs.

In section IV an attempt is made to identify those hypotheses which would be more relevant to the Tanzanian type of economy. In section V we further explore the possibility of explaining expenditure growth in Tanzania through a historical-political stage framework. In this case we are trying to pay special attention to the unique events which took place during the colonial times and in post colonial era.

Finally there will be a summary of the chapter. The hypothesis to be considered in this chapter cannot be claimed to be very complete. Though much work has been done in respect of IDCs, a lot remains to be done for LDCs. This deficiency is not without a cause. By and large, the study of public expenditure has suffered some neglect. Reddy has pointed out that, in the past, economists or specialists in the field of public finance were confined to the analysis of effects of budget policies and the development of normative theories aiming at explaining how the revenue and expenditure policies are in fact determined, rather than studying the behaviour of public expenditure growth. The current efforts to undertake such studies are seen to have emanated from the realization of how important the public sector is now, and its strong influence in the economy, and therefore the need to incorporate some explanation of the behaviour of public expenditure in the general explanation of the process of economic growth.[1]

Moreoever, while the IDCs can continue to study the behaviour of government expenditure and revenue using the data they have, in the case of LDCs, to carry out such studies poses a lot of problems due to

non-availability of data and sometimes incompleteness.

II A REVIEW OF HYPOTHESES EXPLAINING GROWTH OF PUBLIC EXPENDITURE

A number of explanatory hypotheses on the growth of public expenditures have received great attention in post World War II period in the IDC, due to the expansion of the public sector.[2] The hypotheses can be categorized into three groups. There are those which look at the development of public expenditure from an economic point of view, that is, they use economic factors to explain such development. Secondly there are those which take into consideration conditioning factors such as changes in technology and demography to explain the behaviour of government expenditure. Finally there are those which use political, social and cultural factors to explain the changes. While we attempt to study the hypotheses under such distinct groupings, it should be borne in mind that there are no clear cut lines between these categories of factors. It also means that testing such hypotheses which have been formulated within such groupings could be difficult due to problems of separation of the impact of each factor. This message is clear from Musgrave (1969) when he points out that "if the expenditure share change for any one country is considered over, say, the last hundred years, this change may be related to economic development as measured by rising per capita income. But using per capita income was not the only influence on budget policy. The other factors, including conditioning and social forces, enter as well, and their influence cannot be separated neatly from that of the economic factors."[3]

The first predictive hypothesis on the development of public expenditure which takes into consideration economic factors was postulated by A. Wagner. His theory came to be called 'Wagner's

Law'[4] and he expounded the law of "expanding scale of state activities".[5] According to Musgrave, the proposition of expanding scale should be interpreted as postulating a rising share of the public sector in the economy, rather than an absolute increase in the size of the budget which can hardly fail to result as the economy expands.[6] In other words - to borrow the words of Gould, the law states that "as countries progress and grow more prosperous the demand for publicly provided services such as defence, physical infrastructure, communication and education will increase with the result that the state will take up an increasing share of total activity."[7]

Another hypothesis which is related to economic factors is one that takes into consideration the differential productivity increases in the public and private sectors. The argument in this case is that, due to the nature of functions or activities conducted by the public sector which are more labour intensive, there is less chance for productivity increase in the public sector than the private. In view of the latter, the costs of the services provided by the public sector will tend to rise relative to those provided by the private sector. This implies that the public expenditure share would continue to rise even if the volume of services remained constant.[8]

A third hypothesis in the same category of economic factors is one that considers the effect of Keynesian-type economic policies in the post World War II period. The central issue here is that the anti-recession Keynesian policy has been interpreted as requiring fiscal manipulation, especially changes in public expenditure. And since it is easier to increase public expenditure than decrease it,

the result will be an upward drift of public expenditure over time.[9]

Now let us review those hypotheses which attempt to explain changes in public sector in the light of conditioning factors. According to Musgrave, these conditioning factors are of two types, namely demographic and technological changes. The demographic change factor is further subdivided into population rise and population structure change. How do they affect the development of public expenditures? In case of population rise it has been stipulated by Musgrave that there will be an absolute expansion of basic public services and an increased level of expenditure thereon. Most of the goods and services in question are mostly available to subgroups, or represent mixed goods and services the cost of which is not independent of the number of consumers served. He however qualifies the latter by saying that "though there is a strong presumption that the absolute level of public expenditure rises with population, effects on the public expenditure share are less obvious. Much will depend on the location patterns of the growing population, the presence of economies or diseconomies, and so forth."[10] Secondly, population structure change in the sense of age composition changes, call for varying allocations to particular public services. The more school-age children there are, the more school expenditure is required. On the other hand, a higher ratio of aged calls for a larger share of assistance. Musgrave also cautions on the above by pointing out that "economies of scale is again a factor in determining the effects of such changes or expenditure shares, and may operate as either a strengthening or a dampening factor."[11]

On the side of technological changes, it has been postulated

that changes in the technology lead to availability of new products which in turn lead to changes in the mix of desired goods. Musgrave gives several examples. Foremost, the invention and rise of the automobile which has led to heavy spending on high wages; secondly, the development of space technology which has stimulated further reseach spending in this area; and thirdly, changing military technology which has led to countries changing their military equipment which engenders more spending.[12] The technological changes taking place are seen to have set in a new wave among spenders to keep abreast with the new developments. Inevitably the governments have to support new research programmes in its institutions which experiment on new technology. Consequently, its willingness to adopt new technology in its departments entails greater spending. It can therefore be argued that the conditioning factors mentioned above could be used to explain the development of public spending.

The third category of hypotheses are those which explain the behaviour of government expenditure by considering social, cultural and political forces. The latter factors are non-economic in nature and cannot be readily incorporated into the economic model although they have an important bearing on the expenditure ratio.

It has been postulated that the changes in cultural values and social philosophy affect the extent to which institutional adjustments are desired, and may bear also on the degree to which demand is directed at public goods. In studying the US and European public sectors, Musgrave (op.cit. p.86) observed that the growing sense of social responsibility for the welfare of individuals in the present

century greatly increased the demand for transfer programmes. Moreoever, the acceptance by the state of a large role reduced political resistance to the allocation of resources for the provision of public goods.

As far as political forces are concerned they are seen to influence the rate of growth of public expenditure in a number of ways. First, changes in political structures in the sense of transition from authoritarian to representative governments and their democratization through the broadening of suffrage had an impact on the demand for social goods. The demand for more equitable distribution of the national wealth by such representative governments led to expansion of public services which could be seen to be much less difficult a redistributional measure than if tax-transfer programmes were used.[13] Secondly, there is the argument that he ideological stance of governments would influence the rate of growth of public sector, in the sense that governments tending towards the right on a left-right spectrum would favour greater emphasis on individualism and therefore a smaller degree of state intervention and public expenditure, while those tending towards the left would favour more redistribution and equality and therefore greater state intervention and public expenditure.[14] Besides this point of government inclination, there is the view that political practices in democratic societies, in order to be elected or re-elected, tend to make high promises in their manifestoes so as to gain more votes over the others. This process has been referred to as one of vote maximization.[15] Eventually the government is forced to extend further the public goods which in turn increase the expenditure ratio.

Other hypotheses have emerged also which link growth in public expenditures with behaviour of the bureaucrats who work on the budget, and the methods used in deciding on the budget. The forerunner of such hypothesis is Aaron Wildavsky. The latter has argued that the public employees (bureaucrats) are interested in increasing their power, prestige and promotion prospects.[16] As hypothesized further by Breton (op.cit. pp.162-3), the bureaucrats seek to maximize the relative size of their bureaux. The size of the bureau being defined by the number of individuals in the bureau, or when defined in terms of money expenditure, then one looks at the budget of the bureau relative to the government's total budget. Implied by such a hypothesis is that, through the miximization of their share in total budget, the bureaucrats are able to achieve the highest possible income and prestige, subject of course to the constraints that they have to overcome.[17] The implications of the bureaucrats seeking to satisfy their own preferences by influencing the general level of expenditure as pointed out by Breton (op.cit p.163) are several;

(i) the bureaucrats will emphasize the benefit and under-estimate costs in cost-benefit studies.

(ii) they will favour a rate of discount in estimating the present value of benefits and costs which will make projects look more profitable than they really are.

(iii) they will support the introduction of complicated and elaborate machinery to deal with the problem of rising prices and money incomes and other issues.

(iv) they will systematically redefine the objectives and the purpose of a programme to ensure that it remains up-to-date

(v) finally, they will favour the introduction of new legislation to correct the ill effects of some older policy, instead of recommending the abolition of the old policy. The latter implies therefore, that the public expenditure will assume an upward trend in relation to the pressure or influence exerted by the bureaucrats.

Other scholars of public finance have come out with an hypothesis that considers the impact of wars and other social disturbances (upheavals), such as economic depressions, floods, droughts and so forth, on the behaviour of public expenditures. It is argued that such events have a profound effect on the timing of expenditure growth causing sharp temporary departures from underlying trends, and in addition they may have a lasting effect on the trend line itself. Those who contributed towards this hypothesis include Peacock and Wiseman, in early 1960s. The central argument in the hypothesis is that such social upheaval lead to a reduction in taxpayers' resistance to higher levels of taxation (with a shift of the threshold of resistance to a higher level). Civilian public expenditure fill the gap after the upheaval. The government is thus able to finance a higher level of public expenditure from the higher taxation receipts. And because of a 'ratchet effect', neither public expenditure nor taxation will fall back to the pre-crisis level afterwards. The public expenditure share is thus permanently raised or enlarged and a displacement of private spending has taken place.[18]

Finally, some scholars of development finance have developed an hypothesis that explains the behaviour of public expenditure in LDCs using the revenue factor. The central issue in their argument is that

the problem of revenue mobilization, from local and external sources, poses a serious restraint on the development of public expenditure. Lotz[19] has argued that revenues should be treated as a demand determinant when it forms a constraint on spending. This is because in the LDCs the public expenditure tends to be limited to the financing that is available. The revenues are perceived as being quite inflexible in response to the upward changes in public expenditure. This inflexibility is not limited to the tax system alone. In the case of revenues from local borrowing, Lotz pointed to a number of factors which make such revenue quite inflexible. First is the low degree of monetization in LDCs coupled by reduced scope for credit expansion. Secondly, is the non-existence of a significant non-bank market for government bonds. In many cases, such markets are limited to social security institutions.[20] As regards external revenues (ie loans and grants), Lotz considers it to be a constraint because of the limited access that the LDCs have to the open money and capital markets due to their uncreditworthiness. Even bilateral and multilateral aid is seen by Lotz not to be flowing to the LDCs to match the level of demand of such countries.[21] The latter point of revenue insufficiency does not however exist in the IDCs due to the fact that the tax system is quite flexible, with the effect that the revenues respond to the preferred levels of public expenditure. For that matter, the revenues become less important in explaining the behaviour of expenditure.[22] So, in the LDCs the sequence of decisions tends to run from taxation to expenditures. The causes of the inflexibility of the tax system in LDCs will be examined further in the next section.

III DETERMINANTS OF REVENUE SHARE IN LDC-VARIOUS HYPOTHESES

Various scholars of development finance (Lotz, 1970) Chelliah et.al. 1974 etc.) have attempted to study the factors which influence the behaviour of the share of revenue (in GDP) in the LDCs. Due to problems of underdevelopment, most of the studies came out with only one major hypothesis which adequately provided an explanation for the pattern of revenues in such LDCs. This hypothesis has ben referred to as the 'degree of openness' hypothesis. Another factor which is usually used to explain the behaviour of revenues, especially in the IDCs, is the 'Per Capita Income' factor. This is however considered to be less appropriate to LDCs for reasons to be outlined below. Another factor that will be examined is that of foreign receipts, in terms of its contribution towards the increasing of domestic revenue mobilization effort. But first we shall examine why the Per Capita Income' factor is inappropriate to LDCs.

(a) Per Capita Income Factor

A number of economic, social and political constraints tend to reduce the flexibility of the tax system in the LDCs to respond to economic development. Musgrave has pointed out some of the straining economic conditions which tend to limit to the development of the tax structure in LDCs with the effect of keeping low tax revenue.[23] These constraints are however related to the imbalanced structural economic situation of the LDCs. The limitations are:

(i) the dominance in the economy by small-holder agriculture which precludes the use of income tax. Thus presumptive methods of assessment are resorted to.

(ii) The dominance of small-scale manufacturing establishments in LDC

limit the amount that can be collected as excise duties. Keeping a track of movement of goods is difficult. Therefore it is only the few large enterprises that pay their proper tax.

(iii) the dominance of small-retail businesses which are sole proprietorships and which do not keep accounting records makes it difficult to operate a retail-sales taxation.

(iv) The tax administrators in LDCs are seldom able to administer an effective income tax system that captures taxes from all income sources of an individual. Incomes from non-official channels, in particular that from self-employment, does not necessarily give the government more revenues.

(v) The lack of adequate accounting practices and delays in preparing accounts in larger businesses compel the tax administrators to use presumptive methods of assessment.

(vi) The inadequacy of skilled tax manpower precludes the development of complex tax system such as an interlocking one which links an individual's income to expenditure and networth.

(vii) Finally, the tax authorities and courts in LDCs are seen to be too lax on tax-evaders. The fact that tax evaders are allowed to get away with their offences continue to encourage more under-reporting, consequently making the government lose more revenues. Some studies by Hinrichs on LDCs which tried to determine whether there was any strong association between government revenue share (Revenue/GNP) and 'per capita income' found out that there was no significant correlation between the two.[24] Therefore, in view of Musgrave's points above, there is no solid ground for the use of economic development (as indexed by per capita income) to explain the pattern

of revenues. The drawing of this conclusion has the implication that, for budget control purposes, especially through the forecasting process, the GNP measurement cannot be used effectively to achieve that objective.

(b) The "Degree of Openness" Hypothesis

The 'degree of openness' hypothesis attempts to explain the pattern of revenue share through the foreign-trade sector of the LDCs. A number of authors have shown that 'openness' is a more appropriate determinant of government revenue share in LDCs, than say, per capita income. Hinrichs who used the imports/GNP ratio as an index of 'openness' found out that such index explained well the variations in government revenue shares for the LDCs with per capita income lower than US $750, than did the per capita income index.[25] Hinrichs' results have been corroborated by the findings of other authors like Lotz and Mors.[26] The latter expanded more on Hinrichs' work by formulating the foreign trade variables differently. They incorporated exports in the analysis by taking first the 'exports/GNP' ratio and secondly the '(exports + imports)/GNP' ratio. The two variables gave better results than that of Hinrichs' import/GNP ratio, with the export/GNP ratio giving the superior results.

Why is this foreign trade sector such an important determinant of government revenue shares in LDCs? Hinrichs has argued that the chief source of tax revenue in more than two thirds of the LDCs is based on the foreign trade sector. Such taxes vary from import duties, taxes on exports, taxes on exporting companies and so forth.[27] Since revenue collections depend on the availability of tax handles, the foreign trade sector is considered to provide them easily.

Musgrave supports the latter idea also, but adds that easy identification of the goods to be taxed contributes to easiness to tax, and the political will to tax imports of luxury or semiluxury nature, all underline the influence of the foreign trade sector on revenue share.[28]

The second reason for the importance of 'openness' is that the foreign -trade sector size has spillover effects on the ability to collect taxes elsewhere in the economy. Hinrichs has argued that the greater is the size of the foreign trade section, quite probably, the greater is the degree of monetization of the economy; the predominance of cash crops rather than subsistence agriculture; the size of business units; the extent of urbanization, and industrialization.[29] The latter points to the fact that as this sector penetrates the economy, it stimulates more economic development and eventually transforms it into an exchange (monetary) economy that can be taxed easily.

Though most of the authors who have studied the behaviour of taxation development in LDCs have emphasized a lot on this hypothesis of 'openness', there are, however, a number of criticisms which could weaken it in the light of present day economic problems in the LDCs. Foremost, the results which have been reported above relate to data pertaining to years when most of the countries were still colonies or years of immediate post independence period. Hinrich's data pertain to the year 1958,[30] while Lotz et al. data pertain to 1967-68.[31] The economic data of these periods reflected strongly some of the colonial policies which encouraged the colonies to specialize more on commodities for export. Hinrichs (p.555) has underscored the latter

point by pointing out how colonial history has often been reflected in the size of foreign-trade sector of LDCs. Other studies of later periods such as that by Chelliah et.al.[32] covering 1969/71 period show that the share of taxes in international trade has fallen and was just about one-third of total taxes (in percent of GDP), while in 1958 according to Hinrichs' study it was more than 50 percent. Such a change could be an indication of either fluctuations taking place in this sector or a reorientation of the economies of LDCs from one of dependence on export of primary products to one that is more internal-oriented in terms of orienting production towards internal market. On the other hand it could also be the outcome of an induced development in other sectors which enabled them to pay more taxes than was the case in Hinrichs' period. It will therefore be more interesting to study the explanatory power of the foreign-trade sector in Tanzania for the more recent years when a lot of economic transformation has taken place.

(c) FOREIGN RECEIPTS FACTOR

In explaining the behaviour of revenues, the role played by foreign loans and grants has not received adequate attention as yet. A few studies have been done, but the results still remain questionable. Thus it is still debatable whether foreign loans and grants substitute or supplement a developing country's effort to raise development finance. Various empirical studies in this issue (as summarized by Mikesell et.al) never came out with clear cut results. Some of the results supported the hypothesis of substitution implying that the governments have reduced their efforts to save domestically, while others supported the hypothesis of supplementation which implied

that foreign receipts contributed to increased effort to save more domestically.[33] One shortcoming with the latter studies is that they do not point out explicitly whether the savings referred to are those out of tax effort or improvement in the functioning of domestic financial institutions. It is only in the case of World Bank that it is explicitly indicated that foreign capital has been used to substitute domestic savings (in the 1970s and early 1980s), particularly those from the local financial markets.[34] However, the latter observation would apply more to those creditworthy LDCs which could borrow from the open foreign markets, such as Brazil, Mexico, Egypt etc. The case for the very poor nations would be less obvious, and I suppose they would have to make all efforts to raise public savings through taxation. In fact more recent studies which have allowed for non-project aid in the analysis found a positive relationship between aid and the savings ratio. Moreover, it is further pointed out that there is little evidence to support the view that aid reduces tax efforts in recipient countries, or aid is systematically substituted for public savings. (Cassen et.al. 1986. p.25.) Thus, for Tanzania it is worthwhile considering this factor.

IV WHICH HYPOTHESES ARE RELEVANT TO TANZANIA-TYPE OF ECONOMY.

The hypotheses which were discussed in section II in respect of expenditure pattern, except for the revenue constraints hypotheses, were generated out of an empirical investigation of public sector performance of IDCs. These economies have certain characteristics which somehow legitimize the empirical tests carried out to confirm most of the hypotheses. These characteristics are not often mentioned in the literature of public finance, but are taken for granted that they prevail. What are they? To mention only a few, first, the IDC attained a high stage of development more than a century ago. Such economies have been self-sustaining, with the necessary backward and forward linkages which ensure structural economic balance. Local ownership of the major economic sectors further ensures that decisions made are consistent with national needs. The structural economic balance that such IDCs maintain allows the allocation of resources between private and public sector to be done in an efficient pattern. Secondly, the IDCs have the whole economy monetized, which allows for more accurate acocunting and recording of economic activities. For that matter the GNP measure gives a fair view of the state of the economy. Thirdly, for decades, the IDC have developed realiable data management systems, all serving the analytical needs of the nation. Fourthly, the IDCs have developed creditable democratic institutions like parliaments etc., which cater for national interests and influences the pattern of resource use for the benefit of all sectors. Under such conditions then, the hypotheses generate based on IDCs have a solid base supporting them.

When one tries to relate such hypothese to the Tanzanian-type of

economy, which is typical of the least developed economies, some doubts emerge immediately. For one thing, most of the conditions set above applying to the IDC do not prevail. The economy is not structually balanced, but depends considerably on the outside world for its survival. This dependence takes the form of reliance on imports for feeding nearly every sector - economic or social, supported mainly by external grants and loans, due to insufficiency in own export generated funds. The backward and forward linkages which are an important facet for self-sufficiency are lacking. Most of the sectors, especially the agricultural and the manufacturing do not cater for the needs of each other within. The link that exists is external through the export-import mechanism. Besides, for many years, beginning with the colonial period and including the post independence period preceding the Arusha Declaration, the economic activities were not really geared towards the interests of the nation. The foreign capital that operated in the country was interested in earning good profits which were syphoned off to the countries where the investors were based. The outcome of this process was an improper allocation of resources in the economy which culminated in a complete under development of other sectors. Moreoever, the economy has remained under a dualism of a monetary (modern) and a subsistence sector. A large subsistence sector, coupled by poor accounting and information systems limit the amount of data available for analytical use.

As regards the existence of democratic institutions, the country has suffered a lot also. Throughout the colonial period, democratic institutions were non-existent. The legislative council which

operated in the country had its members appointed by the colonial power, actually with little representation of the indigenous population. After independence, the Parliament was made more democratic by having its members elected from the whole population, but its effectiveness in the early years remained doubtful, particularly on grounds of lack of experience at national level on those elected, and also on grounds of the enormous political, economic and social problems they had to deal with. Other underdeveloped characteristics have been discussed above in Section III. Thus, this is the kind of background from which the hypotheses have to be appraised for application to Tanzania.

Some of the hypotheses, especialy the Wagner's law, have been tested for LDCs. The results were quite conflicting. Various authors in early and mid-nineteen sixties carried out some studies which tried to establish that a relationship exists between per capita incomes and the size and pattern of government expenditure in LDCs.[35] Their studies were based on two presumptions: first, that the purely economic and institutional factors represented by a certain 'stage of development' have a strong enough effect on government spending to impart a pattern distinguishable from the influence of political, historical and fortutious factors. Secondly, that the "stage of development" is properly represented by a simple index such as per capita GNP converted to a common basis at official rates of exchange. In general, changes in per capita income were found to explain a relatively small part of the changes in items of government expenditure. Given the large number of non-significant correlations, Lall could not see the meaningfulness of the exercise as a whole, and

even the validity of the results of other similar attempts. He pointed out that "per capita income did seem to influence government expenditure on some items, but on larger categories it seemed not to exercise any influence at all." The reasons for the failure of the Wagner's Law to apply to the LDCs' economies are quite clear. Lall has pointed out two main weaknesses pertaining to the LDCs. First, the per capita GNP figures are notoriously unreliable for the poorer countries. They are not satisfactory indicators of the level of development of a country, particularly of the sophistication and complexity of its institutions. For this reason, per capita GNP may be the wrong thing to relate expenditure to.. Secondly, Lall points out the possibility of existence of other influential factors which overlay the effects of per capita income on the pattern of government expenditures. Lall suggested that other indices of development, if any can be found, be used as explanatory variables, or else explanatory variables not directly connected to the level of development such as imports/GNP or dummy variables for certain non-economic factors be used either with per capita income or independently of it.[36]

Other authors have observed the same results as Lall in as far as far as Wagner's Law applies to LDCs. Musgrave observed that neither cross section nor the time series data seem to support Wagner's Law per se in the context of poor countries.[37] Likewise, Thorn observed that social forces which are closely related to the process of development are a major determinant of the observed tendency of public expenditures to rise faster than GDP. Also a large portion of the services of government are

socially determined and are influenced by the changing social framework of the society. Social change is both a condition for, and a goal of, economic development. Thorn's hypothesis put more emphasis on the social and political forces rather than on economic factors.[38]

In view of the above observations, it becomes clear that Tanzanian-type of economy cannot benefit from Wagner's Law hypothesis to explain the pattern of public expenditure, due to the fact that per capita income does not represent satisfactorily the stage of economic development. However, accepting that 'per capita income' factor is less relevance to LDCs does not imply that it will not be considered in the analysis. In fact we have more recent data ie that covering the 1970s and early 1980s, which was not available when most of the empirical studies referred to above were undertaken. Thus, it might be interesting to see whether the new economic, social and political circumstances in Tanzania will produce different significant results from those of the early studies.

How about the other hypotheses related to conditioning, social, cultural and political factors? Are they applicable to Tanzanian type economy? Some of the literature referred to above has already indicated the need to incorporate such factors in explaining the behaviour of public expenditure. Lotz has underlined the necessity to look at such factors. He has pointed out that government spending patterns appear to be associated not only with the level of per capita income, but with other economic and social factors. He observed also that "there is empirical evidence that with intensive economic development, democratic institutions will be strengthened and the

government's policy will tend to be influenced by the voters whose first concern may well be with social expenditure." He also observed that "the countries with an intensive economic development (ie one which penetrates the whole economy with an increase in per capita income, monetization, urbanization and literacy), expenditures for social welfare seem to be particularly important."[39]

Up to this point there is no doubt about the relevance of the latter hypotheses to Tanzania. However, given its historical-political background, comprising of pure colonialism, trusteeship colonialism and then sovereignty, it appeals to look at the evolution and pattern of public expenditure through those stages. Each stage of political power had different policies towards economic development and public expenditure. This will be discussed in section V below.

The other hypothesis discussed above and which appear to be more important in the LDCs' situation, and which is gaining ground is that which concentrates on the supply of revenue in relation to the behaviour of government expenditure. The importance of the revenue constraint in LDCs has been underlined by Lotz, who also criticized the other earlier studies for not considering this factor.[40] For that matter, the revenue constraint factor need to be emphasized in the study of public expenditure.

As regards revenue behaviour, we have already underlined above the importance of the 'degree of openness' hypothesis. This hypothesis will be tested using Tanzanian data. Another hypothesis that will be considered is the one that takes the foreign aid as a determinant factor of revenue pattern. The justification for the inclusion of the latter factor has already been discussed above. On the other hand,

the 'per capita income' factor will not be ignored completely. For reasons already mentioned above (p.110), some empirical tests will be conducted based on it to detect for any influence on the revenue pattern.

IV A Stage-Theory of Public Expenditure in Tanzania.

The literature that has been referred to above has analyzed public expenditure covering the periods between 1950s and 1960. Early work by Kuznets covered the period 1950 to 1959, Lotz's work covered the period 1962-1966.[41] Hinrichs covered the period 1952-1960,[42] and so forth. Most of the authors assembled the data that was available and analysed them as they would have done for the IDCs. And not surprisingly, the results of their work did not confirm some of the hypotheses they were testing. Moreover, some blame has been focussed on non-availability of data in LDCs, and where it exists, it is considered to be highly unreliable. Nobody would dispute the latter, but still, one wonders why such studies did not incorporate earlier years, say from when the nation states were formed in Africa or Latin America, etc., under the British or Germans etc. Secondly, LDCs are considered in the analyses as if they carried similar sovereign status before they were independent. If I may take the example of African states, these nations started getting their independence in late 1950s. As colonized nations, the political status they assumed varied from one nation to another, and this had great developmental implications. Consider for example the status of Tanzania which was a Trusteeship in the hands of the British government, and that of Kenya or Nigeria which were full colonies of Britain. Without doubt, the latter received a greater share of resources towards their development compared to the former. The policies implemented in Tanzania never considered development as their priority. Further discussion on the latter point will come later.

This sharp contrast between one country and another under the same colonial power was also to be found between countries under different colonial powers. For example, the French policy and its colonies brought the latter even closer to its home administration in the sense of making them constituent regions with even some representation in the French parliament. Such policies must have had some significant impact on the development of the colonies. So, in view of the above realities I consider an analysis that just groups these colonies together under the umbrella of developing countries, as if they had an equal chance towards development, to be incomplete and unjustified.

If one has to study the pattern of public expenditure in Tanzania, such study should consider the whole period that Tanzania has been operating as a state, beginning with 1880s when the German rule began. In the course of the colonial era, Tanzania had to change from German rule to British rule in 1919. When the changes in colonial power took place, some changes in policies occurred too, although from the indigenous population's point of view, such changes never made much difference in terms of improving their welfare. The main sphere of controversy was the economic one, in particular the agricultural sector. Both German and British Administration found it impracticable to turn the indigenous population into a mere settler and plantation farm labour. Similarly, the British administration in the 1930s found it difficult to enforce its Credit to Natives (Restrictions) Ordinance of 1931 which restricted the African population from engaging in commercial activities. The emergence of cooperatives by Africans was a source of conflict with the administration till the 1950s.[43] And because the administration did

not put emphasis on the social sector, eg education, health, better housing etc. at independence the country still remains one of the most underdeveloped nations. The economy still remained a weak settler cum peasant entity.

Given such changes in power and policies, my proposition is that any analysis of the public expenditure done should take into consideration the various stages of political administration that the country went through. This is to go further than just to accept that political factors influence the pattern of public spending. On apriori grounds it could be stated that the different regimes that governed Tanzania generated policies which uniquely determined the level of govenment expenditure without regard to social demands and the level of economic development. It is therefore proposed that the colonial and post colonial period should be divided into stages which reflect the political-economic environment prevailing during the period. Six stages have been proposed so far. They include:

(a) Stage of retarded economic development: 1890-1914 (German Rule).

(b) Second Stage of retarded economic development 1919-1937 (British Rule)

(c) Stage of moderate economic development: 1945-1960 (British Rule)

(d) Second stage of moderate economic development 1961-67 (Sovereign status)

(e) Third stage of moderate economic development 1967-72 (Sovereign status)

(f) Stage of progressive economic development 1973-84 (Sovereign status)

The salient features of these stages in relation to their

influence on the pattern of expenditure will be examined in chapter 5 below.

VI SUMMARY

The chapter has made a review of various hypotheses postulated so far to explain the behaviour of government expenditure and revenues. Most of these hypotheses were seen to have been formulated to explain mainly the government sector situation in the Industrialized countries. Moreover, the hypotheses were seen to have been formulated on the basis of economic, conditioning, social and political factors. Those examined in respect of expenditure pattern included: the Wagner's law which emphasizes the role of economic development on public expenditure; the 'displacement effect' hypotheses which considers the role of shock-full events such as wars, floods, earthquakes etc, on expenditure trend; the revenue constraint on expenditure trend, etc. On the part of revenues pattern, factors such as 'per capita income' and the 'degree of openness' were examined.

In addition to the above hypotheses, it was further suggested that two additional hypotheses should receive some attention. These were identified as the 'foreign-receipts' hypotheses, and the stage of economic/political development' hypothesis. The 'foreign receipts' factor is taken for its impact (mainly supplemental) on local revenue mobilization effort. On the other hand, "the stage of economic/political development" hypothesis attempts to incorporate into the analysis the unique past (especially the colonial era) that Tanzania experienced. The latter hypothesis is an attempt to abstract from the tendency assumed by most of the scholars cited of looking at government sector performance in LDCs in the same way as they would do for the Industrial economies. Although it might be difficult to

quantify the variables in this hypothesis, nevertheless, as qualitative factors, they give a more realistic impression of the phenomenon.

The hypotheses which could be applied to the Tanzanian situation were discussed also. These included the revenue constraint, the conditioning factors (change in technology and demography), the social and political factors, the 'degree of openness', the 'foreign receipts' factor etc. Their relevance was determined on the basis of evidence provided by other studies in development finance. Most of the studies had, however, a reservation on the use of 'per capita income' as a determinant factor for both expenditures and revenues due to its unrealiability. This could be a source of problems for budgetary control because, if the GNP figures used in computing the 'per capita income' cannot be relied upon, then even the composite GNP figures are not reliable for the pupose of analyzing the composite revenue and expenditure items. The latter notwithstanding, I have indicated that the GNP factor will be considered in the analysis on grounds of the additional recent long-term data available which was not considered in the previous studies.

Needless to mention, the main objective in examining some of these hypotheses is of course to detect those explanatory variables which are critical in determining the level of both expenditures and revenues, which in turn can be used to prepare policy measures intended to increase budgetary control. The latter implies that the strong factors can be used in the process of projecting more accurate expenditure or revenue figures in the future. For example, in the case of foreign receipts, there are grounds to suspect that the past

reliance on it to finance government expenditure might have been the cause of the present recurrent costs problems, which cannot be met internally, and yet not much of the foreign financing is available for that pupose. But even without considering the long term effects of it, in the shorter run too much dependence on foreign funds could lead to a disruption of expenditure if there is a cut or interruption by the donors. Therefore, a thorough understanding of the influence on expenditure and revenue of each of the factors discussed is essential for exercising financial planning and control as part of budget management.

In the next couple of chapters, the factors discussed in this chapter will be tested using Tanzania data so as to establish the variables that are most influential in determining (and hence for controlling) both expenditures and revenues. Such variables would then form the basis for further discussion in the chapters (part 3) which deal with forecasting.

NOTES

1. Reddy, K.N. 'The Growth of Government Expenditure and National Income - India 1872-1966' Public Finance Vol.25 No.1 1970 pp.81-82.
2. Frank Gould 'The Growth of Public Expenditure in Ireland 1947-74' Administration, Vol.29 No.2 1981 p.116.
3. Musgrave, R. (1969). Fiscal Systems, p.72, New Haven and London: Yale University Press.
4. Gould, F. op. cit. pp116-117.
5. Musgrave, R. op. cit. p.73.
7. Gould, F. op.cit. p.117.
8. Ibid. p.118.
9. Ibid, p.118.
10. Musgrave, R. op. cit. pp.83-84.
11. Ibid. p.84.
12. Ibid, pp.84-85.
13. Ibid p.86.
14. Gould, F. op.cit. 117.
15. Ibid, pp.117-8.
16. Ibid. p.118.

    Also see Breton, A (1974) The Economic Theory of Representative Government pp.167-70. London MacMillan Press.

    Besides Breton's hypothesis on the behaviour of bureaucrats, Wildavsky and his associates went further into their analysis (about American budgetary system) and come out with the conclusion that budget determination by bureaus is done on an

incremental basis whereby the current budget is set as a formation of the prior budget, which implies that only marginal (incremental) changes are initiated on programmes.

17. Breton points out that there are technical constraints which actually define the range of feasible alternative behaviours between which the bureaucrats can choose. Success in attaining their objective is dependent largely on how one can manipulate the information that is to be passed to the next level of hierarch. So, 'bureaucrats will withhold and/or transform information as it moves from lower to higher echelons in the hierarchical structure of their bureau and/or they will withold or transform commands as they move in the opposite direction, in such a way that bureaucrats placed "high-up" in the hierarchical structure and the politicians will develop a "good" image of "lower" bureaucrats and accede to their demands."

18. Musgrave (1969) op. cit. pp87-90.

19. See Lotz J.R. "Pattern of Government Spending in Developing Countries", Manchester School of Economics and Social Studies. Vol. 38 No.2.1970, p.130.

20. Ibid p.131.

21. Ibid p.131

22. Ibid p.130.

23. Musgrave (1969) op. cit. pp.125-30.

24. Hinrichs H.H. 'Determinants of Government Revenue Shares Among Less Developed Countries' Vol. 75. Sept 1965. pp.548-551. The data relates to the study period 1957-60, and they were tested at the 1% level of significance.

25. Ibid pp.548-551.

26. See Lotz J.R. and Morss E.R, 'A Theory of Tax Level Determinants for Developing Countries, 'Economic Development and Cultural Change,' Vol. 18 No.3 (April 1920) pp.329-335.

27. Hinrichs (1965) op.cit. p.554.

28. Musgrave (1969) op.cit. pp.129-130.

29. Hinrichs (1965) op. cit. p.554-555.

30. Ibid p.555.

31. Lotz and Morss (1970) op. cit. p.340.

32. Chelliah R.J., Baas H.J. and Kelly, M.R.'Tax Ratios and Tax Efforts in Developing Countries 1969-71' IMF Staff Papers Vol.22 1974 p.201.

33. Mikesell,R and J.E. Zinger, "The Nature of the Savings Function in Developing Countries: A Survey of Theoretical and Empirical Literature." Journal of Economic Literature Vol.11 (March 1973) pp.12-15.

One of the most interesting conclusion made by one of the studies (that by Landau p.13) says that "although the evidence is by no means impressive, it would seem that more governments react to a receipt of foreign capital by increasing their investment outlays than their consumption expenditure.

34. World Bank (1985) World Development Report 1985, p.58. Washington D.C. The World Bank.

35. See Lall, S. "A note on Government Ecxpenditure in Developing Countries" Journal of Economics Vol.29 No.34 1969 p.413.

Also see Lotz J.R.C. (1920) op.cit. p.120-22.

36. Lall (1969) op.cit. pp.414-416.

37. Musgrave (1969) op.cit. p.123.

38. Thorn, R.S. 'The Evolution of Public Finance During Economic Development' Public Finance Vol.35 No.1 pp19-23.

39. Lotz (1970) op.cit. p.119.

40. Ibid p.122.

41. Ibid pp121 & 125.

42 Hinrichs (1965) op.cit pp.550.

42.. Hinrichs (1965) op.cit. p.550.

43. Coulson, A (1982) Tanzania: A political economy pp.60-69 Oxford; Clarendon Press.

As Coulson points out, peasant production in crops like coffee and cotton was booming. But the settlers who were growing coffee in the same regions as the peasants (mainly in Arusha and Kilimanjaro areas) fought hard to prevent the peasants from growing such crop. The colonial administration had to bow to the demands of the settlers by discouraging further expansion on the part of the peasants. But the latter measure had little restrictive effect. However, a greater conflict was to emerge in the sphere of marketing of the peasants agricultural produce. During the German era, it was only the European trading companies and Asian merchants who were allowed to engage in import and export trade, and local trade. The British administration continued to encourage this policy by actively discouraging Africans from any sort of commercial operations, mainly through the Credit Native (Restrictions) Ordinance of 1931. To circumvent these restrictions, the peasant growers decided to set up the cooperatives (mainly in Kilimanjaro and Bukoba) which

would buy and sell their produce. The struggle between the colonial administration and the peasant-owned cooperatives continued into the 1950s, when at last the former gave up.

CHAPTER 5

EXPENDITURE TRENDS - AN EMPIRICAL INVESTIGATION

I INTRODUCTION

The chapter will focus on testing some of the hypotheses discussed in chapter 4 in the context of Tanzania. Various hypotheses were cited and discussed in the aforementioned chapter, which attempts to explain the growth of public expenditure in both developing and developed states. Some attempts were made to single out the hypotheses which appeared to be more relevant to the Tanzania-type of economy. The relevancy distinctions had been made based on research work results of various scholars. Moreover, the chapter highlighted some salient social, political and economic factors (p.108) which distinguished a developing country from a developed country with respect to the hypotheses' application. Therefore, the major part of this chapter will concentrate on testing those hypotheses which have some bearing on the Tanzanian socio-economic and political environment.

Three main hypotheses will be tested. The first hypothesis relates to Wagner's law. The second hypotheses relates to revenue constraint in relation to behaviour of public expenditure. The third hypothesis relates to the "stage of development".

In the case of the Wagner's Law hypothesis, we state that the government expenditure has been growing both absolutely and relative to total economic performance. This hypothesis is being tested here further although its applicability to a country like Tanzania has been

ruled out by a number of early studies. The main reason for picking it up once again is that the early studies had analysed data of upto early 1960s. Since we have data of up to early 1980s, it is pertinent that the hypothesis should be tested for the observation of any relationship between the two factors. The second hypothesis of revenue constraint on public expenditure is constructed in a way that allows for the examination of how revenue mobilization in Tanzania has been influencing the pattern of public expenditure. Conceptually, the tests will attempt to determine the extent to which efforts to mobilize revenue influence expenditure patterns. The third hypothesis on "stage of development" attempts to relate the Tanzanian pattern of public expenditure to its historical politico-economic background. The hypothetical construct states that the pattern of public expenditure in Tanzania was influenced by the political events taking place during the country's nationhood. There are difficulties of course of testing this hypothesis using statistical data. It is intended that the "stage of development" factor should be used in a qualitative sense mainly, although some dummy variable will be used to cover such influences in a general model that combines all the factors which will be discussed.

The discussion to follow will assume the following pattern. In section II below the total expenditure will be examined for its trend pattern, while in section III a cross section analysis of total public expenditure will be considered, taking into account the influence of economic development. In section IV the disaggregated expenditure will be examined for its trend pattern, while in section V the influence of economic development on the decomposed expenditure will

be tested. In section VI the influence of revenues on total expenditure will be tested, while in section VII the hypothesis of 'stage of development' will be examined. In section VIII we will examine an additional factor of "concessional foreign receipts (AID)," and also try to combine all the other factors discussed above to see how they influence expenditure. Finally there will be a summary.

II AGGREGATE GOVERNMENT EXPENDITURE - TIME SERIES ANALYSIS

The growth of public expenditure in Tanzania was examined briefly under the problem definition chapter 2. The salient observations noted there will be stressed once more, but covering expenditure trend from 1953/54 up to 1983/84. During this period of 31 years, total expenditure has seen a tremendous increase. In 1953/54 the expenditure share in GDP was just about 14.4 per cent. By 1959/60, a period when the country was getting its independence, the expenditure share was still low at 15.7 per cent. Between 1960/61 and 1969/70 there was a modest increase with expenditure share remaining between 15 per cent and 22 per cent of GDP. After 1970 there was an outburst of expenditure growth. Within a decade and a half, the expenditure share had risen from 26.3 to 43.7 per cent. Figure 5:1 below clearly shows the high growth pattern assumed by the absolute public expenditure. (Figure 5:1) An observation of the relative expenditure figures (to GDP) also plotted on graph (Figure 5:2) portrays the same image of slow growth initially followed by accelerated growth in recent years. The various peaks and troughs observable in the latter will be discussed further below.

FIGURE 5:1. TOTAL GOVERNMENT EXPENDITURE TREND.

(IN MILL. OF Tshs.).

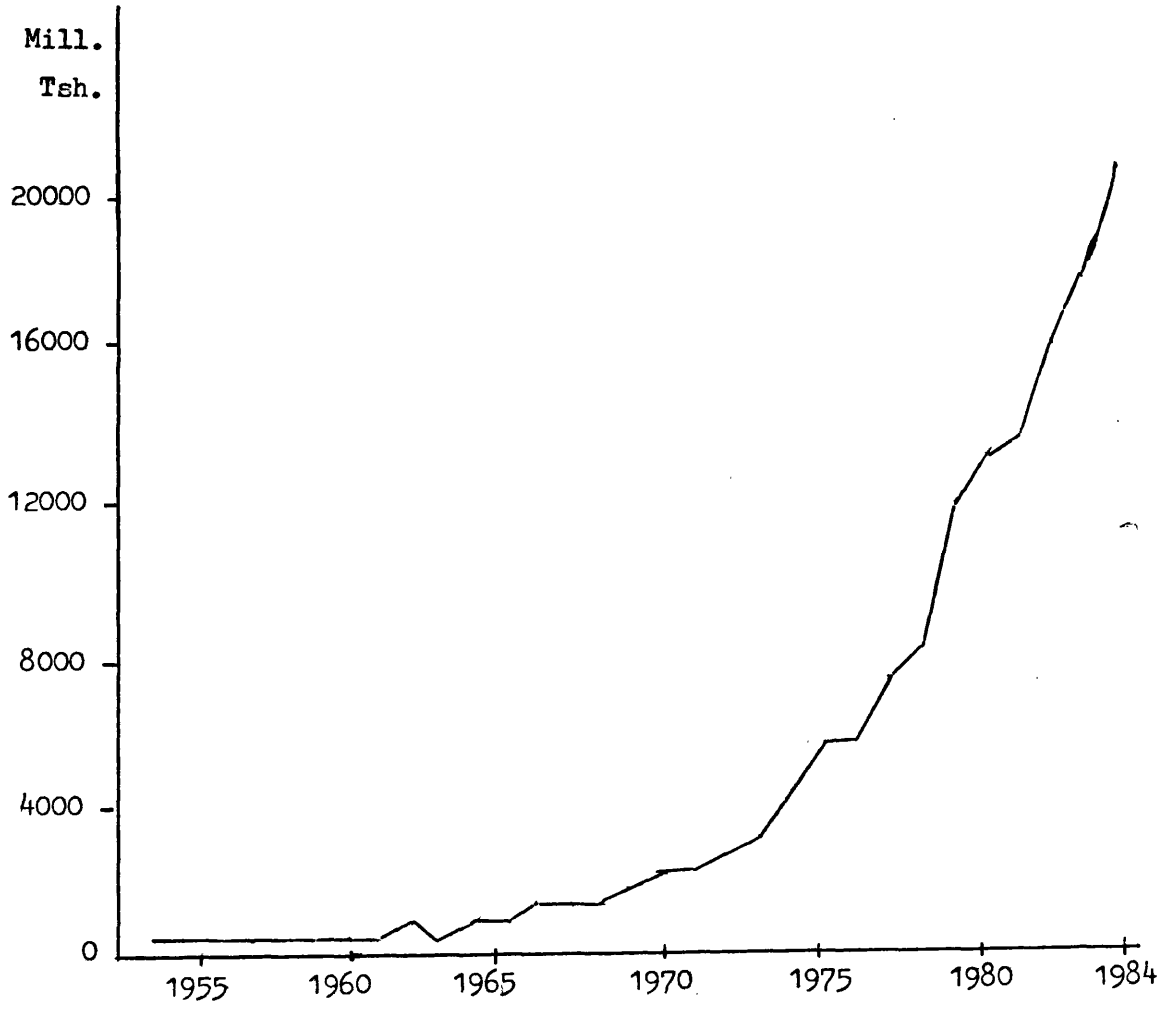


FIGURE 5:2. TREND PATTERN OF SHARE OF TOTAL EXPENDITURE IN GPD.

In order to test for the secular increase in government expenditure, a linear and non-linear (single logarithm) regression on time were estimated. The expenditure figures were taken as a proportion of GDP, for the period 1953/54 to 1983/84. The results of the estimates are as presented in equations 1 and 2 below.

$$(E/Y) = 0.10084 + 0.0065(T) \quad R^2 = 0.89596 \qquad (1)$$
$$(9.0) \quad (15.9)$$

$$\text{Log}(E/Y) = -2.00424 + 0.037265(T) \quad R^2 = 0.943 \qquad (2)$$
$$(-64.3) \quad (21.9)$$

Durbin-Watson (DW): 1.22

(E/Y) is the percentage share of government expenditure in GDP, (T) is the Time series and the figures in parentheses are t-ratios)

For both equations the coefficient of correlation (R^2) is quite high implying that the equations are a good fit. The significant t-values in both cases also confirm that the regression coeficients are significant at the 5% level of significance. However, the non-linear function gives much more superior results compared to the function, given the different levels of R^2 . Therefore, on the basis of the logarithmic function, it could be concluded that the expenditure has had a secular increase given the positive regression coefficient. On the other hand, the residuals of equation (2) are significant in view of the DW statistic (at the 5% level of significance), which points to an existence of a positive autocorrelation of the first order. Although additional factors will be considered below, it will suffice at this point to examine the sharp turning points (i.e. the peaks and troughs) of Figure 5:2 to determine their causes. Generally, the turning points appeared when changes in absolute GDP and public expenditure occured in the opposite direction. As can be seen from Table 5:1 below, the peaks occured when the GDP grew at a lesser rate than that of expenditure, while the troughs occured when it grew at a higher rate than that of

expenditure. In the more recent years, beginning 1964/65, it is possible to identify the shocks which caused either the sharp rise or fall. These are indicated on the remarks column of Table 5:1.

TABLE 5:1: EXPLANATIONS FOR TURNING POINTS IN EXPENDITURE RATIO.

YEAR WITH TURNING POINT	NATURE OF TURNING POINT$	CHANGE IN ABSOLUTE GDP	CHANGE IN ABSOLUTE EXPENDITURE	REMARK (SHOCKING EVENTS)
1955/56	PEAK	3.9%	13.1%	No major event or policy change can be identified
1959/60	TROUGH	4.5	1.9	
1962/63	TROUGH	8.6	-7.1	
1964/65	PEAK	1.4	16.8	First five year development plan launched
1970/71	PEAK	7.7	16.8	Nationalisation and effect of massive investment programme after launching second five year development Plan[1]
1971/72	TROUGH	14.5	5.8	Foreign exchange crisis[2]
1974/75	PEAK	21.3	38.3	Villagization Programme implemented and Drought expenditure[3]
1977/78	TROUGH	30.0	11.9	Good crop year with coffee boom[4]
1978/79	PEAK	10.7	46.7	Uganda War and extra East African Community expenses[5]
1980/81	TROUGH	9.7	3.3	IMF pressure to cut spending[6] and severe drought effect on GDP
1983/84	PEAK	10.0	17.7	Foreign exchange crisis affecting production in every sector.

$ - As noticeable from Figure 5:2 above

- the change is the difference between outturn in the turning point period and the prior year

SOURCE. The figures for GDP and the Total Expenditure are as appears in Appendix 1

III AGGREGATE GOVERNMENT EXPENDITURE - TIME SERIES ANALYSIS

This section endeavours to determine the influence of per capita GDP on the expenditure growth pattern in Tanzania. For the purpose of this analysis the per capita GDP is defined as the GDP (in current price) per person. The period covered is 1953/54-1982/83.

To carry out the test, the share of total expenditure in GDP was regressed on per capita GDP using ordinary least squares. The equation obtained with the various test statistics was as follows:

$$(E/Y) = 0.14708 + 0.0001141(P) \quad R^2 = 0.829 \qquad (3)$$
$$\qquad\qquad (12.83) \quad (11.89)$$

(E/Y is the share of Total Expenditure in GDP, P is the per capita income, while the figures in parenthesis are the t-ratios).

At the 5% level of signficance, the significant values of t-statistics indicate that the regression coefficients are significant. Also, the R^2 is high enough implying that the fit is good. The latter clearly shows that there is a close association between expenditure levels and economic development. A casual look at the regression coefficient might tempt someone to think that its value (ie 0.0001141) is too small, which in fact is not the case. We need to remember in this instance that per capita income is expressed in absolute terms (ie in a few thousand shillings) while the 'E/Y' is expressed as a ratio with values between 0 and 1.

The strong positive influence that the per capita income has on

expenditure trend can not be brushed aside as some of the critics of Wagner's Law in respect of LDCs have tended to suggest. The fact that a bigger portion of the economy continues to be drawn into the monetary sector (consequently improving the GDP measure) underlines the necessity to use the hypothesis in explaining expenditure behaviour.

IV DISAGGREGATED GOVERNMENT EXPENDITURE - TIME SERIES ANALYSIS

The categories of expenditure for which trend analysis was done, with their results, include those appearing under equations 4 to 10 below. The data covered is that for the period 1953/54-1982/83

As far as equations (4), (6), (7), (9) and (10) are concerned, the correlation coefficents (R^2) are high indicating that the fit is good. In the case of equations (5) and (8), the R^2 are rather low, implying that the fit is not good. As far as the t-statistics are concerned they are all significant, thus confirming that the regression coefficients are significant at the 5% level of significance.

RESULTS OF REGRESSION ANALYSIS

The t-statistics are given in parenthesis

T- stands for Time Series

TYPE OF EXPENDITURE	REGRESSION EQUATION	(R^2) CORRELATION COEFFICIENT	EQUATION No
Recurrent expenditure	0.0911+0.00578(T) (8.4) (9.8)	.77	4
Economic Serv. Exp.	0.01793+0.00074(T) (7.75) (5.86)	.542	5
Social Serv. Exp.	0.0176116 +0.00187(T) (7.23) (14.09)	.8725	6
Education Exp.	0.01907+0.00102(T) (12.34) (12.58)	.845	7
Health Expenditure	0.01078+0.000356(T) (8.38) (5.07)	.47	8
Agri. Expenditure	0.00597+0.001137(T) (2.415) (8.43)	.71	9
Defence Expenditure	-0.01006+0.00197(T) (-2.14) (7.69)	.671	10

The fact that the regression coefficients on the time factor are all positive indicate that the various expenditure components have had a secular growth, corresponding of course to the growth pattern assumed by the total expenditure. Moreover, it is worth noting that the correlation coefficients (R^2) for social services ((6)) and education expenditure ((7)) (i.e 0.8725 and 0.845 respectively) are quite high compared to the rest, which suggests that the government has been putting more emphasis in this area compared to the other sectors.

V DISAGGREGATED GOVERNMENT EXPENDITURE - TIME ANALYSIS

The disaggregated government expenditure items were also regressed on per capita GDP using ordinary least squares. The items with their regression results are listed below. The data covered is that for 1953/54-1982/83.

The regression results on the expenditure components indicate the following. Equations (11), (13), (14) and (17) have a high value of correlation coefficient implying that the fit is good. Equations (12), (15) and (16) have R^2 values below 0.50 indicating that the estimations are not very good fits. Hence, only in the case of good fit do we continue with the other interpretations.

REGRESSION ANALYSIS RESULTS

Significant correlations between types of government expenditure as percentages of GDP and per capita income (P) t-statistics are given in parentheses.

TYPE OF EXPENDITURE	REGRESSION EQUATION	CORRELATION COEFFICIENT(R^2)	EQUATION NO
Recurrent expenditure	.112933+0.0000735P (15.01) (11.69)	.825	11
Economic Sev. Exp.	0.02354+0.00000655P (10.15) (3.38)	.282	12
Social Serv. Exp.	0.02813+.0000205P (9.29) (8.09)	.693	13
Education Expenditure	0.024196+.000012P (16.17) (9.47)	.755	14
Health Expenditure	0.01235+0.0000042P (11.94) (5.03)	.466	15
Agriculture Exp.	0.0135+0.0000112P (5.0) (4.97)	.46	16
Defence Exp.	-0.0012+.000024P (-0.311) (7.4)	.655	17

The t-statistics in equations (11), (13), (14), and (17) indicate that the coefficients on per capita income are significant. For equation (17) the constant is not significant at the 5 percent level of significance. The above results bring us to a point where we cannot draw a strong general conclusion that the various expenditure items' growth patterns are influenced by economic development as measured by per capita income. Nevertheless, it is important to note that some items' growth patterns are influenced by per capita income. Some of these observations might tie in with the earlier observations made by Lall (1969: pp 416-17)[7] whereby he observed that correlations coefficients of the regressions he carried out were rather poor to the effect that changes in per capita income explained a relatively small part of the changes in items of government expenditure.

VI THE REVENUE CONSTRAINT HYPOTHESIS

In chapter 4 (p.98) the case for revenues being a big constraint on expenditure pattern was put forward. The government expenditure is seen to be restrained by the government's ability to raise revenue. In Tanzania, revenue mobilization has always been on the difficult side. The existence of a big subsistence sector restricts the buoyancy of the tax system in that direct taxation is limited, and also that the administration of an indirect taxation system is costly and very uncertain. Much of the latter is discussed in Chapters 6 and 8 below which deal with revenue behaviour and forecasting. For the purpose of testing the revenue constraint hypothesis, we need to have an index that will measure the effort extended by government in mobilizing revenues. The index that will be used in this analysis is the actual tax ratio (ie tax revenues to GDP). Other indices which have been used to measure a country's effort to mobililize revenues include tax capacity and tax effort indices. These indices have been used in cross sectional data analysis as for example in the case of Lotz et. al.[8] and several IMF studies.[9] Such indices are not relevant to time series data.

When the actual tax ratio is regressed against expenditure, the results are as shown in equation (18) below.

$$E/Y = -0.08345 + 1.8089(Ty) \quad R^2 = 0.80 \qquad (18)$$
$$\qquad\quad (-2.59) \quad (10.8)$$

(where E/Y is the expenditure ratio, Ty is the actual tax ratio, while the figures in parenthesis are the t-ratios).

The results of equation (18) appear to be significant in view of

the high R^2 value and the t-values. It can therefore be concluded that the revenue constraint is an influential factor in explaining the trend of public expenditure.

VII THE "STAGE OF DEVELOPMENT" HYPOTHESIS

It was mentioned in the last chapter 4 (p114) that the expenditure pattern would be studied in the light of "stage of development" and it was also suggested that the whole period of nationhood would be considered. For reasons beyond control it has not been possible to collect complete data on government expenditure for the period preceding 1953/54. The data that could be reliably used for the purpose of this study was that of 1953 and after. Therefore, for the period before 1953/54 only the major policy highlights will be mentioned without statistical proof. Moreover, in a combined model of expenditure determinants discussed in section VIII below, 'the stage of development' factor will be represented by a 'dummy variable'. The setting of the variable is outlined at the end of the section. But first a discussion of the various stages.

(a) First Stage Of Retarded Economic Development 1890-1914 (German Rule)

During this stage the Germans spent much of the time on consolidation of power over the local chiefdoms. A few settler sisal plantations were set-up, while some peasants were encouraged to grow cotton. Two lines of railway were built to serve the plantations, namely the Central Line (1905) and the Northern Line (1912). The Central administration was kept at a minimum with administrative powers delegated to chiefs, while the provision of health and Education services was left to missionary establishments. Hence, it could be argued, the government spending remained quite insignificant.

(b) Second Stage Of Retarded Economic Development 1916 - 1937 (British Rule)

Tanzania was ceded to Britain by League of Nations after the 1st World War. During the period, the taken-over economic, administrative and social structures were not changed significantly. A mixed economy (plantations and peasant production) was retained. The missionaries continued to provide social services, while the chiefs continued to administer their enclaves.[10] In the area of transportation it is only a small extension that was made to the Germans' installations, ie a Tabora-Mwanza rail extension in 1928.[11] Therefore, with the latter set up, it can be argued that the government was not bound to incur high expenditure on government services.

(c) Stage Of Moderate Economic Development: 1945-1960

This period starts with the ending of the 2nd World War, after a short break of events in the country due to the war. In this new era the colonial government (ie Britain) put more emphasis on economic development by encouraging more of peasant, settler and commercial company agricultural undertakings.[12] Likewise, the government undertook to provide better transport network, especially to areas which were active in agriculture. Hence, railway extensions such as those from Kaliuwa to Mpanda, Msagali to Hongoro, and Mtwara to Nachingwea.[13] Though the government attempted to improve the quality of roads, by 1960 the road-network was still poor.[14] Moreover, government involvement in the country was limited by a number of factors. First was lack of skilled manpower, and secondly was lack of financial resources.[15] The latter factors had the

effect of pushing the government into adopting very conservative approach towards budgeting.[16] Needless to mention, the government had no means of borrowing from the banks due to the finacial system in operation, whereby the authority lay with the East African currency Board in Nairobi (see Coulson 1982: p 274). Inspite of the adverse conditions mentioned above, the total expenditure appeared to have grown significantly, as can be seen from Table 5.2 below, although only little appeared to have been spent in the key infrustructural sectors (ie roads, water supply, agriculture etc).

TABLE 5:2 TOTAL GOVERNMENT EXPENDITURE STATISTICS

YEAR	1 TOTAL EXP. AMOUNT	2 ROAD & BRIDGES AMOUNT	3 WATER DEV. AMOUNT	4 AGRICULTURE
		MILLIONS SHILLINGS		
1945	96.			
1946	102.			
1947	122.			
1948	136.	6.0	2.0	10.0
1949	174.	8.0	4.0	14.0
1950	232.	28.0	4.0	16.0
1951	292.	30.0	4.0	18.0
1952	366.	44.0	6.0	16.0
1953	360.	42.0	6.0	18.0
1954				
1955	396.	} 38.	} 12.0	} 18.0
1956	452.	} 38.	} 16.0	} 20.0
1957	462.	} 36.	} 18	} 24.0
1958	482.	} 36.	} 18	} 24.0
1959	494.	} 36.	} 22.	} 22.0
1960	502.			

The } implies that the figures are for a fiscal year ending in June, while in the rest the figures are for the calendar year.

SOURCE: Cyril Ehrlich - Tables 1 and 2. From Journal of Modern African Studies, vol. 2 1964 pp. 265-77. Some Aspects of Economic Policy in Tanganyika 1945-60.

In the period 1953/54 to 1954/60 (period when GDP figures were available) the public expenditure as a share of GDP ranged from 14.4% to 16.5%. The latter was quite minimal compared to what was taking place in Britain itself and other western nations. Table 5.3 below gives some clear impression of the point raised. Even a country like

Kenya which held the colonial status of a full colony, had a higher share of public spending compared to Tanzania, although still low compared to what was being spent by the western countries.

TABLE 5:3. VARIOUS COUNTRIES' TOTAL GOVERNMENT EXPENDITURE AS A SHARE OF GNP (in %tage).

PERIOD / COUNTRY	1948	1950	1955	1957	1958	1962	1963
USA	23			28.5		33.2	
UK.		39	36.6				38
GERMANY		40.8			44.1		
KENYA		16.0		20.8	19.8	18.9	

SOURCE: Musgrave, R. (1969). Fiscal Systems, Chapter 4 Table 4-1 (Data for USA, UK. & Germany). Yale University Press. Chadwyck Healey Ltd. Cambridge. The source for the Kenyan data (Original source being the Kenyan Statistical Abstract (Various Years)).

(d) 2nd Stage Of Moderate Economic Development, 1961-67

This was the beginning of a new era of independence. The political environment changed slightly but without much change in the economic sphere. The necessary grounds for a major change was being prepared, especially with the comissioning of World Bank, Arthur D Little Consultants and the Raisman Commission (all in 1961) to undertake some studies in various aspects of the economy. The reports

were followed by the First Five-Year Plan launched in 1964/65. Moreover, a law to protect foreign investments was enacted.[17] But the tide was not in favour of Tanzania. Diplomatic problems with Britain and West Germany over Rhodesia and East Germany respectively led to a blockade of foreign funds which had been expected to be the main source of funds for the development programmes. (Coulson 1982 p 142). The modest growth in spending during this period can be discerned from Figure 5.1 above.

(e) 3rd Stage Of Modest Economic Development 1967-72

This period is entered with a feeling of failure, but with greater political determination. The economic path to be pursued is defined within the policy of "socialism and self-reliance" as enshrined in the 1967 Arusha Declaration.[18] Consequently, some nationalizations of foreign owned companies is carried out.[19] Moreover, the government started to approached non-traditional aid donors such as China, Netherlands, Scandinavian countries and the Eastern Block. China responded well by supporting the Tanzania-Zambia railway in 1968. Heavy spending by government through bank borrowing also started to take roots. From Figure 5:1, the rising level of expenditure is quite noticeable.

(f) Stage Of Progressive Economic Development 1973-84

The gloomy political climate with the western countries had been cleared. The period saw the launching of rural development programmes needing significant financing. Many western countries and the World Bank enter the scene to support the country in the poverty eradication

programmes, especially those in the area of health, education, water supply, and energy supply[20] etc. The rising demand for expenditure forced the government to borrow more from the banks. However, the period 1974/75 and 1975/76 saw some direct initiative on the part of government to reduce spending, particularly by reducing its employees (see Green (1984) op cit. p 293). From Figure 5.1 the sharp rise in expenditure is discenible, except for 1974-1976 period when there was a retrenchment of public spending.

In short, it is being argued on a priori grounds that some deliberate political-economic policies at various stages of the nationhood had a direct bearing on the public expenditure. To incorporate this factor of 'stage of development' in the quantitative analysis, a 'dummy' variable with 'O' values for those periods with little push for expenditure will be assigned, while '1' will be taken for those periods with great push for expenditure, and '-1' will be assigned to those periods when political events had a negative impact on expenditure. Further specifics of the value assignment will be indicated in section VIII below.

VIII A COMBINED MODEL FOR ALL THE FACTORS INFLUENCING GOVERNMENT EXPENDITURE PATTERN

Having seen in the preceding sections the explanatory power of the various factors discussed over public expenditure, in this section we attempt to bring such factors together and see how they influence expenditure in general. In addition to the factors discussed above, ie Per Capita Income, actual tax ratio and the 'stage of development', it is intended to introduce some extra factors in this multiple regression analysis. The first factor is that of demography, which should be taken to be a proxy for the automatic pressure exerted on government for high spending due to population growth. Although in this analysis the index that will be used is the annual total population figure, it would be interesting to find out the influence that changes in the structure of the population have on the pattern of public expenditure. Therefore, the latter remains as a potential area of further research. The second factor that will be considered in this analysis is that of concessional foreign receipts (aid). It is being hypothesized that the aid flows have had some positive influence on the expenditure pattern. Population and the aid factor appeared to have a strong correlation with total expenditure, as shown in equations (19) and (20) below.

$$E/Y = -0.1032 + 0.0263(Po) \qquad R^2 = 0.93 \qquad (19)$$
$$(-5.53) \quad (19.7)$$

$$E/Y = 0.1374 + 3.7838(Fy) \qquad R^2 = 0.58 \qquad (20)$$
$$(6.39) \quad (6.31)$$

(Where E/Y is the ratio of expenditure to GDP, Po is the

population while Fy is the ratio of Aid to GDP)

The multiple regression results for the factors considered appear below as equation (21).

$$E/Y = 0.07773 + 0.8831(Fr) + 0.4523(Ty) + 0.0155(Po) + 0.96E\text{-}05(P) + 0.0033(D)$$
$$(-1.69) \quad (2.13) \quad (2.07) \quad (2.37) \quad (0.38) \quad (0.36)$$
$$R^2 = 0.953 \quad (21)$$

(E/y is the total expenditure ratio, Fr is the Aid ratio; Ty is the actual revenue ratio, Po is the population; P is the income per capita; while in D is the dummy variable[21] representing the 'stage of development.' The figures parentheses are the t-ratios.

From equation (21), the income per capita variable appears to be very insignificant both from the very insignificant value of the coefficient and from the t-ratio point of view. And when this factor is eliminated from the analysis, the results still remain at the same level of significance.[22] Another factor which turns out to be insignificant is the 'dummy variable'. this implies that the assumption of certain economic political events having influenced expenditure trend is disconfirmed. Therefore, the strong factors in the analysis are the aid, actual revenue, and population. These results imply that, in forecasting expenditures, these variables have to be accorded due emphasis, otherwise, a failure to consider them could only add to the crisis experienced in expenditure control. The

forecasting aspects will be discussed in later chapters.

IX SUMMARY

The Chapter has tested empirically a number of factors. The analysis began with the examination of expenditure trends with the results revealing some secular growth for both total expenditure and the major subcategories of expenditure. Moreover, a number of instantaneous shocks were identified for those years when there was a sharp turn of expenditure trend. The shocks included political antagonisms, severe drought, foreign exchange crisis and wars etc.

The second level of analysis concentrated on testing the important factors hypothesized to be influencing the behaviour of expenditure. The per capita income factor was seen to be a strong influence on total expenditure and some of the categories of expenditure. For other expenditures, especially economic services expenditure (see equation (12)), per capita income did not appear to be influential. The other factor of 'revenue constraint' which was represented by the actual tax ratio index, appeared to be a strong influence on expenditure as well. Other factors which could be tested statistically as well were those of demography and Aid. Their results revealed that the expenditure pattern has been responding to their influence too. The factor of 'stage of development' which was used to represent the political and social factors, could not be assigned some precise proxy values which could be reflected in the analysis justifiably. Neither did the dummy variable assigned to such factor emerge with significant results in the analysis. Nevertheless, on a priori grounds it could be argued that the determinant contribution of such factors upon the expenditures had been subsumed by the other factors. As argued correctly by Musgrave, it is not easy to separate

neatly the influence of these political and social factors from that of economic factors.[23]

Finally, when the influential factors were combined in a single model, the results indicated that aid, actual revenue and population had a strong influence on expenditure trend. The per capita income variable emerged as a weak determinant factor, an outcome which infact supports the findings of the other studies which have never found per capita income to be a strong factor in the LDCs situation. The importance of these results is that, if the influential factors can be specified (ie forecasted) accurately, then it is quite possible to determine the potential expenditure associated with them by using the combined model.

NOTES

1. Rutayasire L.W. "The Government Budget Constraint and Government Expenditure Determination in Tanzania: 1964-81." Unpublished paper presented to the Economic Research Bureau; University of Dares Salaam (1984) p 12
2. Ibid, p 12
3. This topic was discussed in detail in chapter 3 above
4. Also discussed in chapter 3 above
5. Arkadie, B.V. (1983) "The IMF Prescription for Structural Adjustment in Tanzania: A Comment in Jansen, K. ed. (1983), Monetarism and Economic Crisis and the Third World. p. 129 London, Frank Fass and Company Limited
6. Ibid pp 130-31
7. Lall S. "A Note on Government Expenditure in Developing Countries", Journal of Economics Vol 79, No. 314 p 416-17
8. Lotz J.R. and Morss E.R. "A Theory of Tax Level Determinants for Developing Countries". Economic Development and Cultural Change, Vol 18 # 3 (April 1980) pp 328-41
9. Bird R.M. (1978). Assessing Tax performance in Developing Countries: A Critical Review of the Literature. In Toye J.F. ed Taxation and Economic Development. P. 42 London etc. Frank Cass and Company Limited
10. Coulson, A. (1982). Tanzania: A Political Economy p 45 Oxford; Clarendon Press.
11. Ibid p. 47
12. Ehrlich, C. "Some Aspects of Economic Policy in Tanganyika,

1945-60." Journal of Modern African Studies, Vol. 2 # 2 1964 p. 271

13. Ibid. pp. 271-2: The Mpanda line was for the lead mines discovered in the area, while the other two lines were for the groundnuts schemes in Nachingwea and Dodoma.

14. Ibid. p. 273

15. Ibid. p. 267. The labour problem is argued to have been critical because Britain itself had a shortage of skilled workers after the war, and hence none could be spared for Tanganyika. Secondly, there hadn't been much effort taken towards training local manpower. On the part of finances, it is argued that due to the balance of payments crisis in Britain in the 1940s (ie after the war), imports to Tanganyika got restricted as well.

16. Ibid. p. 269

17. Coulson (1982) op. cit. pp. 120-173

18. Ibid. p. 177

19. Ibid, p. 179

20. Kleemieier L. "Domestic Policies versus Poverty Oriented Foreign Assistance in Tanzania" The Journal of Development Studies, Vol. 20 # 2 (1984) pp 173-177

21. The values assigned to the 'dummy variable' were as follows. Between 1954 and 1968 when there was no big political push for higher spending, the value 'O' has been assigned. Between 1969-73 and 1977-1980 when there was a strong political pressure for public spending, the value '1' has been assigned. Between 1974-

76 and 1981-1984 when there was pressure for cutting down on spending, especially from IMF, the value '-1' has been assigned.

22. The combined equation without the per capita income factor is as follows:

$$E/Y = -0.0937 + 0.915(Fr) + 0.436(Ty) + 0.0175(Po) + 0.0014(D)$$

$$(-4.91) \quad (2.3) \quad (2.06) \quad (4.76) \quad (0.18)$$

$$R^2 = 0.953$$

(E/y is the expenditure ratio; Fr is the Aid ratio, Ty is the actual revenue ratio; Po is the population; while D is the dummy variable. The figures is parentheses are the t-values.

23. Musgrave R (1969) Fiscal Systems: p.72 New Haven, Yale University Press

CHAPTER 6

REVENUE TREND - AN EMPIRICAL INVESTIGATION

I INTRODUCTION

In reviewing theories on public expenditure and revenue behaviour in Chapter 4, an attempt was made to identify those factors which influenced expenditure determination in less developed economies (LDCs). Among the factors examined was tax revenues. It was emphasized that tax revenues were a great constraint on expenditure determination. In carrying out the empirical tests in Chapter 5, the revenue aspect was included in the expenditure determination model by the proxy of actual tax ratio. The tax index used appeared to be influential in explaining the behaviour of expenditure (Chapter 5 p.147).

This Chapter intends to explore further the determination of the revenue share in Tanzania. Those hypotheses which have been used or constructed to cover LDCs will be considered, and they include the following: The first one states that the tax capacity in Tanzania is positively related to the level of economic development. The second hypothesis states that the foreign trade sector of the LDCs serves is a significant factor in determining the tax capacity of a country. The latter hypothesis is oftenly referred to as the 'degree of openness' hypothesis. The former hypothesis is being reconsidered in spite of some objections by some eminent theorists such as Hinrich's etc. who have argued that per capita income does not represent

correctly the level of economic development in LDCs.[1]

Another two hypotheses that will be covered also associate the revenue share with the composition of the GDP with emphasis laid on the mining and agricultural sectors, and the foreign loans and grants taken by the country.

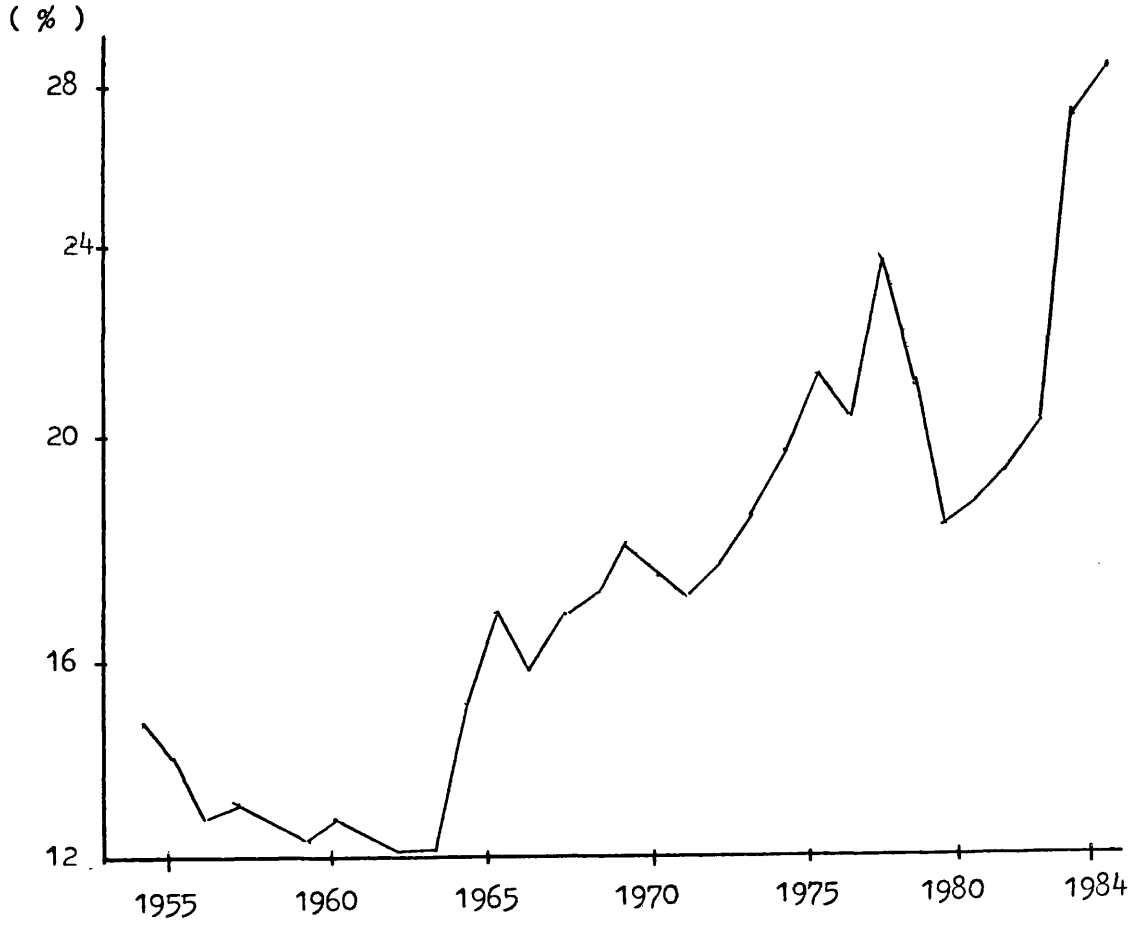
The sections to follow will be in the following order: Section II will carry out a test for secular increase or decline in the revenue share. This section will also examine the level of revenue share instability and explore the causes for it. Section III will consider the hypotheses mentioned above on an aggregate level. Section IV and V will consider foreign loans and grants from a trend point of view, and also a consideration of factors thought to be influencing it. Section VI and VII examines disaggregated current revenues on both trend and cross section basis. The factors which are thought to be influencing revenue share will be tested for the tax components as well. Finally, there will be a summary.

II. CURRENT REVENUES - TIME SERIES ANALYSIS

The current revenues share of GDP has been fluctuating although the general trend overtime has been an upward one. A graphic presentation below (Figure 6:1) clearly shows that revenue growth relative to GDP has not been very stable over the 1953/54 - 1983/84 period.

FIGURE 6:1

TREND OF RECURRENT REVENUE SHARE IN GDP



A non-linear regression analysis of the revenue share on time for the period 1953/54 to 1983/84 shows that there has been secular growth. The values for R^2 and t-statistics are high enough, thus

pointing to the strength of the fit and the significance of the coefficients. The equation appears below. The t-ratios are in parentheses.

$$\text{Log}(T/Y) = -2.09597 + 0.02415(T) \quad R^2 = 0.81 \qquad (1)$$

$$(-59.8) \qquad (11.2)$$

DURBIN-WATSON (DW):0.68

(T/Y stands for Taxes ratio to GDP, while T stands for the time).

Worth noting from Figure 6:1 above is the fact that between 1953/54 and 1962/63, the share of tax revenue in GDP was declining. The ratio fell from 15.6 per cent in 1953/54 to 12.8 per cent in 1962/63. Beginning with 1963/64 the ratio started rising gradually from 18.0 per cent to 25.8 per cent in 1976/77. There was a drop in 1977/78 of about 6 per cent from that of prior year. In 1978/79 the share rose again reaching a peak of 29.9 per cent in 1983/84. Also noticeable from Figure 6:1 are a few sharp turning points which may be related to some events taking place. A scientific testing of the residuals (ie. using DW test) indicates that there is a positive autocorrelation of the first order. the other factors affecting the revenue share will be discussed in the next sections. However, some of the turning points will be examined further at this point. In Table 6:1 below the nature of turning points and the levels of changes in taxes and GDP for the years involved are indicated. In most of the cases, the peaks occurred when the tax revenue change was greater than that of GDP, while the trough occured when the reverse of the latter occurred. Some of the explanations given are speculative, ie. without concrete support, while others are factual.

TABLE 6:1. EXPLANATIONS FOR TURNING POINTS IN REVENUE RATIO AND TREND LINE

PERIOD	NATURE OF TURNING POINTS[8]	YEARLY TAX REV CHANGE[≠]	YEARLY GDP CHANGE[≠]	POSSIBLE EXPLANATIONS OF TURNING POINTS
1964/65	PEAK	14.4%	1.4%	Drive to raise local funds to launch the 1st Five-Year Plan
1965/66	TROUGH	6.9	14.9	Could reflect the outcome of the diplomatic crisis which cut off external funding and hence reduction of local tax effort related to shelving of projects.
1968/69	PEAK	8.7	3.9	Reflects increased local tax effort to meet nationalization needs, as part of 'Self Reliance' Policy.
1970/71	TROUGH	5.5	7.7	Reflects impact of deep balance of payments crisis following Nationalisations (Rutayasire (1984) op cit. p 12)
1974/75	PEAK	32.4	21.3	Reflects impact of the Introduction of Income Tax Act in 1973/74 which established fairly progressive tax rates.
1975/76	TROUGH	-1.9	3.5	Reflects impact of severe drought which affected production (Rutayasire (1984) op cit. p 12).
1976/77	PEAK	56.8	35.3	Reflects results of coffee and tea boom (Arkadie (1983) op cit. p 129) and external Trade Liberalisation (Payer (1983) op cit. p 798)
1978/79	TROUGH	-4.0	10.7	Reflects impact of severe balance of payments crisis (Arkadie (1983) op cit. p 129)
1983/84	PEAK	13.3	10.0	Reflects impact of Private Trade liberalisation especially on importation using private sources of funding.

$ - As noticeable from figure 6:1 above

- The change is the difference between outturn in the turning point period and the prior year.

SOURCE: The figures for GDPand the tax revenues are as appears in Appendix 1.

The fluctuations observed on the plot line (figure 6:1) were subjected to further analysis. The purpose of such analysis is to determine the degree to which the annual revenue flows are unstable. The technique used in measuring the instability analyses the variations of the yearly revenue figures from the trend line. Thus the index of instability is derived using the normalized coefficient of variation obtained from a linear regression of the absolute revenue on time over the period 1953/54-1983/84. The

formular used is: $100 \times \frac{\text{Standard Error of Estimate}}{\text{Sample Mean}}$

The Standard Error of Estimate was obtained from this equation:

$$R = 2680.13 + 381.05\ (T) \quad R^2 = 0.72$$

$$(-3.3) \qquad (8.6) \qquad \text{SEE } 2192.06$$

(R = total Revenue; T = Trend, and the figures in parentheses are the t-ratios. Sample mean = 3406.7

The level of revenue instability in Tanzania stood at 64.3%.[2] In order to know whether the index is either too low or too high, it was compared with other instability indices developed by Lim. However, the comparison has to be interpreted with caution due the fact that the periods involved are not the same. My index is based on the period 1953/54 to 1983/84 while that of Lim is based on the 1965 to 1973 period. Therefore, Lim's indices should only serve as rough

indicators. Lim's median instability index for 45 LDCs was 64%.[3] But when the Tanzania's index is compared to the average index of other 21 African countries, which stood at 54%, the former certainly appear to be on the high side.[4]

What factors could explain this variability or instability in revenues? Several factors have been used to explain this phenomenon, and they appear to be related to the common characteristics of the LDCs. Such characteristics include the following: First, in terms of value added (GDP), the economies are dominated by the agricultural sector, a sector where natural factors such as weather, pests, diseases etc cause great instability in production.[5] The second argument is that most of the LDCs depend heavily on the agricultural sector for public revenue. Since a major source of revenues is import and export duties, a slight change in the quanta and prices of exports - which also affect foreign exchange earnings for imports, will immediately affect the amount of export and import duties. Hence a change on the supply (production) side and/or on the demand (consumption) side for the agricultural products affects revenues considerably.[6] The latter implies that, in the LDCs direct taxes play a relatively less important role. Thirdly, it is argued, the existence or non-existence of spending pressure can affect revenue stability. Besides spending pressure arising from general price level changes, there could be pressure from, inter alia, the growth of population and the emergence of strong local opinions and world opinion etc. Since the government has to incur the expenditure arising from such pressures, it is obliged at the same time to raise the revenues so as to satisfy the pressure groups.[7]

How do the mentioned factors affect the instability of revenues in Tanzania. As regards the point of agricultural sector's dominance in the economy, this has already been pointed out in Chapter 3 page 49 above. Most of the country's exports are to a large extent of agricultural nature. How then has the latter been affecting revenues? In the 1950's and the 1960's the government received more than a quarter of its tax revenues from export and import duties (see Table 6:1b below). In the 1970s and early 1980's that share declined considerably. Any changes which took place in the exports also affected the quantum of imports. An examination of the instability indices of agricultural output (Monetary sector), exports (excluding services) and imports (excluding services), which were computed using the same formular as on p. 157 above, pointed to rather low indices compared to that of total revenue. The indices are as shown below:

Total Revenue	64.3%
Agricultural Output	37.1%
Exports	20.5%
Imports	40.6%

On the basis of the above indices, there is not much evidence of the instability in total revenue to having been caused wholly by instability in agricultural output, or exports, or imports. The results are reasonable of course in view of the fact that about four fifths of the revenues are not derived from the foreign trade sector.

The second other major factor contributing to the instability of revenue share in Tanzania is the tax structure itself. Looking at the tax components as presented on Table 6:(1a) and (1b) below we

observe that the share of indirect taxes in the total recurrent revenue has always been higher than that of direct taxes. Before discussing further the latter point, it is worthy noting that even on the indirect taxes, Tanzania has not been earning much revenues from the foreign trade sector as was argued in Chapter 4 (p.101) above. Quite noticeable in this respect is the export duties which have remained almost insignificant in all periods (except in mid and late 1970s). Most of the exports are agricultural based as pointed out in chapter 3, the bulk of them being produced by peasant farmers. The issue of low producer prices and incentives to the farmers has dominated decisions concerning the setting of export taxes. The Government has been trying to keep taxes low on agricultural exports so as to keep producer prices high enough. On the part of mineral exports, the share is obviously low given the low level of output as was indicated on chapter 3 p. 62 above. Hence only a small amount of export taxes can be recovered from mineral exports. The latter point will be examined further in Section III below where some analysis has been done.

TABLE 6:1(a)

TAX COMPONENTS AS A SHARE OF TOTAL RECURRENT REVENUE (%)

PERIOD	1953/54	'59/60	'64/65	'69/70	'74/75	'79/80	'83/84
DIRECT TAXES	30.8	23.4	15.1	22.8	25.3	31.0	25.6
INDIR. TAXES	34.4	42.4	39.3	53.6	56.8	56.3	62.1

TABLE 6:1(b)

TAX COMPONENTS AS A SHARE OF TOTAL RECURRENT REVENUE (%).

	1953/54	'59//60	'64/65	'69/70	'74/75	'79/80	'82/83
1.EX. DUTIES	1	1	3	3	6	6	0.09
2.IMP.DUTIES	16.0	31.0	24.0	22.3	13.2	10.5	5.3
TOTAL (1+2)#	17.6	31.6	27.0	25.4	18.2	16.4	5.6
3.SALES TAX	5.7	10.9	8.9	24.4	35.7	38.1	41.0
4.V. L.TAXES	1.4	2.0	2.1	2.6	0.4	0.4	0.6
TOTAL (3+4)#	10.6	14.8	12.8	28.3	38.1	37.4	46.2
5.I.& P.TAX.	23.5	22.5	15.0	22.8	25.3	31.0	23.7

Note: # The totals do not add up exactly to the sub-components because of either some omissions of other minor taxes, or even some errors in the data.

Key for abbreviations used:

Indr. Taxes - Indirect Taxes.

Ex. Duties - Export Duties.

Imp. Duties - Import Duties.

Sales Tax - Consumption and Excise Duties.

V.L. Taxes - Vehicle Licences and Taxes.

Source: Computed from Revenue data appearing in Appendix 1

Coming back to the point of low direct taxes, it has been argued that, in order for the tax share to grow at the same rate or

even at a higher rate than that of national income, the tax system as a whole must be income elastic in character. The taxes involved should have a built-in flexibility to increase as income increases. The built-in tendency to rise should be supplemental to whatever discretional measures which might be taken by tax authorities to bolster revenue inflows. Norman Gemmell has been able to show in the case of a country like the U.K. which relies heavily on progressive income tax and value added tax that there is a built-in tendency for the shares of income tax and VAT in total revenue to rise and fall respectively as income rises. The effective average rate of income tax rises independently of changes induced by inflation, under indexing or other discretionary actions by the tax authority, while the effective average rate of VAT falls slightly as incomes rise in the absence of changes in the rate structure.[8] As far as Tanzania is concerned, in the 1950s and 1960s, for direct taxes, the country relied upon taxes such as poll tax and hut tax.[9] A more progressive income tax system was introduced in 1973 under the Income Tax Act of 1973. Moreover, as appearing on Table 6:1(b) above, the share of non-income taxes have continued to dominate. A further examination of the tax-income buoyancy coefficients for the various major groups of taxes pointed to the results appearing below.

The taxes which have an elasticity co-efficient greater than unity certainly point to progressivity of the tax. However, when we compare the elasticity coefficient of income tax with that of sales tax, we note that the former has been less progressive. But more to it is that most of the sales taxes depend on discretional action (either changes in tax rates or bases etc.) for increased taxes. And

in view of the fact that sales taxes are now the main revenue sources, and given that they do not bear a built-in flexibility to change with changes in national income, any instability experienced in this source will therefore be felt in the total tax revenue.

CATEGORY OF TAX	BUOYANCY COEFFICIENT
Total Tax Revenue	1.225
Foreign Trade Taxes	0.840
Local Transaction Taxes	1.749
Consumption and Excise Duties	1.901
Income and Personal Taxes	1.2762

Source: Adapted from equations appearing in Appendix 6 Table 6A-1

Having looked at the trend and the unstable nature of the tax share, I now turn to the next sections which examines the factors which appear to explain or influence the behaviour of the total revenue ratio and the tax components ratios.

III CURRENT REVENUE: TIME SERIES ANALYSIS

In this section the hypotheses (discussed in Chapter 4 above) which considered the per capita income,' degree of openness', the composition of GDP and the foreign loans/grants will be tested. The per capita income factor which represents the stage of economic development was considered inappropriate measure for development in LDCs (see Chapter 4 p.108) although observation made on empirical tests were of mixed results. In some cases this factor appeared to be important in explaining changes in revenue share while in some countries' cases, it appeared to be less influential.[10] Inspite of the latter objection to use income per capita for LDC revenue analysis, I, however, consider it important that it should be taken into account in the analysis, for a couple of reasons. First, my analysis will cover an additional 15 years relating to 1970s and 1980s which were not covered in the analyses cited above. Secondly, as the economy continues to be monetized further, the problems of compiling GDP figures continue to ease. Current efforts to raise the ratio of manufacturing output (see Chapter 3 p.57) through industrialization, and also efforts to change rural life through the Integrated Rural Development Programmes should imply a greater monetization of the economy. Moreover, the government's integration into the UNO, IMF, World Bank etc. Systems of data reporting should also imply to some extent an improvement in the data management systems. Nevertheless, the results obtained from the use of per capita income in the analysis of revenues have to be interpreted with caution.

On the other hand, the 'degree of openness' hypothesis has received much attention from those who have done some studies in this

area such as Musgrave (1969 p 72) and Hinrichs (1965 p. 549) etc. Though there is no dispute among scholars over what 'degree of openness' covers, however, some scholars differ on the selection of proxy that represents the foreign trade sector.[11] The variables which have been used as representing the 'degree of openness' or foreign trade sector include: the imports ratio to GDP, the export ratio to GNP, the sum of exports and imports ratio to GNP; the trade balance (exports minus imports) ratio to GNP, etc. Since the purpose of this study is to identify those factors which influence tax ratio in Tanzania, all of the variables will be included in the cross-section analysis to test for their effect on the pattern of revenue share.

The other variables which will be tested for their influence on revenue shares are those of the composition of GDP. In particular the share of Mining and Agriculture will be considered. The two variables have been included in various studies undertaken under the umbrella of IMF staff papers. For most of the LDCs, excluding petroleum exporting countries, the latter sectors are most important in as far as tangible goods production is concerned. Manufacturing sector still remains insignificant with less than 10 per cent share (Chapter 3 p 57). Secondly, the output of these two sectors accounts for almost 100 per cent of the foreign (export) trade sector. Implicitly, the two sectors provide the cushion for the taxable bases in the LDCs. Undoubtedly, the level of production in the two sectors have a direct impact on the level of exports and imports as well as the level of demand for consumable goods, which in turn affect revenue flow. Since the LDCs do not tax directly the incomes of small farmers and miners,

the tax advantage of the two sectors are expected to be in the form of foreign-trade sector duties and consumption taxes.

Finally, the other factor to be tested in this analysis is that of external concessional receipts (Aid)[12] The latter view is still controversial because there are other schools of thought which argue that receipts of foreign aid lead to taxes being lower than they otherwise would be.[13] Nevertheless, in view of current efforts by institutions such as World Bank to have more aid mobilized for the LDCs, the latter underscores the importance of aid in increasing the recipients' domestic saving efforts.[14] Moreover, if we may assume that aid (especially that in form of projects) exerts some form of pressure on the government to increase its efforts in mobilizing more local resources to cover the counterpart project costs, then there is some practical support to consider Aid as a potential factor influencing revenue shares.

The regression analysis was made for the period 1953/54-1983/84, taking into account the variables discussed above. The recurrent revenue ratio was regressed on the various variables in various combinations as listed in Table (6):2 below. For the Aid factor, further regressions were made to cover the period 1966/67-1983/84.

TABLE (6):2: REGRESSION RESULTS ON REVENUE SHARE

(PERIOD COVERED: 1953/54-1983/84)

REGRESSION EQUATION	R^2	Eq. No.
$T/Y = 0.1407 + 0.48E\_04\ (P)$ $(17.47)\quad (7.18)$	.64	(1)
$T/Y = 0.1729 + 0.384E\_04\ (P) - 0.0981\ X'y$ $(3.8)\quad (2.5)\quad (-.73)$	.647	(2)
$T/Y = .1086 + 0.49E\_04\ (P) + 0.0098\ (M'y)$ $(3.6)\quad (7.29)\quad (1.117)$	.655	(3)
$T/Y = 0.1768 + 0.03745\ (M'y)$ $(3.7)\quad (0.21)$	0.0015	(4)
$T/Y = 0.147 + 0.36E\text{-}04\ (P) - 0.624E\ 02\ (M'y)$ $(2.5)\quad (1.966)\quad (-0.032)$ $-0.16\ (\frac{x-m}{y})$ (-0.774)	0.66	(5)
$T/Y = -0.0091 + 0.713E\_04\ (P) + 0.2372\ (\frac{x+m}{y})$ $(-0.15)\quad (6.56)\quad (2.56)$	0.71	(6)
$T/Y = 0.18711 - 3.506\ (Ny) + 0.1278\ (Ay)$ $(8.25)\quad (-8.02)\quad (2.79)$	.6969	(7)
$T/Y = 0.0772 + 0.403E\_04\ (P) + 0.1861\ (\frac{Ym-X'}{y}) - 0.1938(Fy)71$ $(2.9)\quad (4.8)\quad (2.5)\quad (-.55)$		(8)
$T/Y = 0.0387 + 0.56E\_04(P) + 0.151(Ym) - 0.09154\ (FY)$ $(.737)\quad (5.59)\quad (1.924)\quad (-0.26)$	.686	(9)
$T/Y = .229 + 0.324E\_04(P) - 0.1337(\frac{Ym-X'}{}) + 0.0894\ (FY)$ $(3.1)\quad (3.1)\quad (-0.8)\quad (0.21)$	.481	(10*)
$T/Y = 0.466 - 0.403E\_06(P) \_ 0.399\ (Ym) + 0.184\ (Fy)$ $(2.28)\quad (-0.16)\quad (-1.46)\quad (0.442)$	.46	(11*)
$T/Y = 0.1765 + 0.193E\_04(P) - 2.334(Ny) + 0.6997(Ay)$ $(7.57)\quad (1.49)\quad (2.6)\quad (1.18)$	.720	(12)
$T/Y = 0.091 + 0.1768E\_04(P) - 1.709\ Ny + 0.0977\ Ay$ $(1.54)\quad (1.399)\quad (-1.78)\quad (1.61)$ $+ 0.144\ (\frac{Ym-X'}{y})$ (1.537)	.74	(13)

TABLE (6): 2 (Continued)

$$T/Y = \underset{(1.71)}{0.1117} + \underset{(1.82)}{0.268E.04}\,(P) - \underset{(-2.0891)}{1.982}\,(Ny) + \underset{(1.138)}{0.06731}(Ay) + \underset{(1.06)}{0.080}\,(Ym) \qquad .732 \qquad (14)$$

$$T/Y = \underset{(0.98)}{0.078} + \underset{(1.94)}{0.414E\_04}(P) - \underset{(1.59)}{1.644}\,(Ny) + \underset{(0.79)}{0.048}(Ay) + \underset{(1.29)}{1395}\left(\frac{x+m}{y}\right) \qquad .737 \qquad (15)$$

$$T/Y = \underset{(7.3)}{0.18313} + \underset{(8.4)}{0.541E\_04}(P) - \underset{(-1.94)}{0.094}(Ay) \qquad .72 \qquad (16)$$

Symbols used

T/Y = ratio of Revenue to GDP

P = Per capita income

Xy_1' = ratio of export goods to GDP

My = ratio of import goods to GDP

$(\frac{x-m}{y})$ = ratio of foreign trade balance to GDP

$(\frac{x+m}{y})$ = ratio of total foreign trade to GDP

Ny = ratio of mining sector output to GDP

Ay = ratio of Agricultural sector output to GDP.

$(\frac{ym-x'}{y})$ = ratio of non-export monetary GDP to GDP

Fy = ratio of AID to GDP

Ym = ratio of monetary GDP to GDP

* = the equations are based on 1966-84 data

(The Figures in Parentheses are T-ratios)

The results of the per capita income [P] variable regression were quite significant as presented on equation (1) above. The R2 with the value 0.64 indicates that the regression is reliable. The t-value also shows that the coefficients are significant at the 95 per cent level of confidence. The value of the coefficient in the latter

case might look small, but that is not the case. This is due to the fact that the per capita income is stated in absolute terms while the revenue ratio is stated in percentage. In view of the above reasonably significant results, we can draw the conclusion that, in part, the revenue share responds to the influence of the economic development.

The results of the 'degree of openness' hypothesis where regressions were made on exports, imports, total foreign trade, foreign trade surplus etc. were quite unsatisfactory. Equation (2) above which has the export goods as a variable clearly shows that the coefficient is insignificant when judged from the low level of t-value, and moreover, the coefficient has a negative sign, which actually negates our hypothesis that the exports have a positive contribution to the taxable capacity.

Using the imports as our variable and having multiple regression done with per capita income as the other explanatory variable, the results as presented on equation (3) above are a bit encouraging although the low value of t-ratio indicates that at the 5 per cent of significant the import coefficient is insignificant. However, when the import variable is regressed alone as presented on equation (4) above, the very low values of t-ratio = (0.21) and R^2 = (0.0015) clearly shows that there is hardly any relationship between the revenue share and import ratio. The results are not surprising though because, as shown on Table 6:1(b) above, the taxes arising from the foreign trade sector have been declining substantially relative to the other sources.

The foreign trade surplus variable (X-M) as presented on

equation (5) above, also appears to be unimportant as a determinant on the revenue share. The t-ratio for this variable indicates that the coefficient is insignificant. Though the coefficient bears a negative sign, the final impact is expected to be positive because since 1969/70 the trade balance has been in the deficit, and in more recent years the deficit has been almost 100 per cent of the export value. Prior to 1969/70 the account was almost balancing. The trade balances for a few selected years which appear below in Table 6:3 might help to exemplify the point.

TABLE 6:3 FOREIGN TRADE BALANCE FOR SELECTED YEARS

(in millions shs)

YEAR	1953/54	57/58	61/62	65/66	68/69	69/70	73/74	78/79	81/82	83/84
BALANCE	+40	+182	-12	+110	+25	-407	-2170	-4629	-6111	-7183

\+ = positive trade balance

\- = negative (deficit) trade balance

Source: Computed from total exports (goods and services) and total imports (goods and services) as supplied by United Republic of Tanzania (various years) Economic Survey, Dar es Salaam.

The results of the 'total trade variable (X+M)/Y) in equation (6) above appear to be significant. The critical value of t-ratio shows that the coefficient is significant. The coefficient on the per capita income (P) is also significant. The constant is rendered insignificant due to the low level of t-ratio. In view of the high value of R2 = 0.708, the regression is also considered to be significant.

The rather poor explanatory power of 'degree of openness' variable as represented by the various proxies, can be explained by the changing in role of the various foreign trade taxes in relation to the total revenue over the period in consideration. As presented in Table 6:1(b) above, the local transaction taxes and income taxes have assumed a greater proportion, especially in more recent years, thus overshadowing the important role played by the foreign-trade taxes in the 1950s and 1960s.

The results for the shares of mining and agriculture as specified in equation (7) appear to be quite interesting. These results were expected because of the relative roles played by the mineral and agricultural sectors. In Chapter 3 (p.49 and p.62) the diminishing contribution by the mineral sector and the dominance of agricultural sector were pointed out. Although agriculture may not be taxed directly, ie. through producer taxes, or land taxes etc. however, for agriculture-based LDC like Tanzania, it is this sector that provides the income which eventually is taxed in form of import duties, sales taxes, excise duties etc. Therefore, the agricultural sector is taxed indirectly through expenditure taxes.

The next results to be considered are those related to the Aid influence on revenue share as specified in equation (8) and (11) above. The equations appear to be good fits as reflected by the significant values of R^2 . However, for the Aid variable (Fy), the ratios are very insignificant, thus making the coefficients appear insignificant. More interesting on the latter variable is the change in the arithmetic sign of the coefficients on the basis of length of study period taken. For equations (8) and (9) which covered the period 1953/54 - 1983/84, the coefficients were negative which implied that the Aid had the negative effect of having taxes lowered. But equations (10) and (11) which were based on the period 1966-84, gave positive coefficients on Aid which implied that the latter had the effect of increasing tax effort. In view of the fact that the level of aid to Tanzania increased considerably after mid 1960s (discussed further in Section V below), the results of equations (10) and (11) are important in that they confirm the positive role played by aid towards local resource mobilization.

Besides the results already discussed for equation (1) to (11), some additional simulation analysis was done that involved combining the various factors. These are reflected in equations (12) to (16) above. The equation that would present the best option is (16) due to its high values of t-ratios and R^2. The Ay coefficient now assumes a negative sign, but this could be expected because since it is taken as a proxy for income per head (Prest op cit. page 20), it therefore appears as a repetition of the other variable (P) ie per capita income.

When the Tanzanian data was applied to the IMF accepted equation

(18) below,[14] the results were as shown in equation (18(a) below.

$$T/Y = 11.47 + 0.001(Y_p - X_p) + 0.44\ Ny + 0.05\ Xy \quad R^2 = 0.376 \quad (18)$$
$$(7.84) \quad (0.38) \quad (5.45) \quad (1.17)$$

$$T/Y = 0.1773 + 0.3565E\text{-}04(yp - Xp) - 1.18(Ny) + 0.076(Xy) \quad R^2 = 0.704 \quad (18a)$$
$$(4.29) \quad (2.31) \quad (2.64) \quad (0.4945)$$

(Yp-Xp is per capita non export GNP, Xy is the export ratio excluding mineral exports, Ny is the share of mining in GDP, T/Y is the share (in percentage) of taxes in national income).

The correlation coefficient (ie $R^2 = 0.704$) for equation (18a) is quite high which confirms the fitness of the equation, but the t-ratio for the non-mineral exports is rather low, thus rendering the regression coefficient insignificant. Another major difference is the sign on the Ny (mineral) variable which is negative in equation (18a). The reasons for the latter occurancy are certainly the same as those given for the outcome in equation (7) above. In spite of the fact that the mineral sector is not a major contributor to the economy, however, equation (18) could still be used to assess the tax capacity of Tanzania.

IV FOREIGN LOANS/GRANTS - TIME SERIES ANALYSIS

The foreign aid ratio to GDP pattern over the period 1953/54-1983/84 has been one of great fluctuations. When we apply regression analysis to the trend, we observe the following: The foreign receipts

(Aid) have been growing over the period as revealed by equation (19) below, where the regression coefficient is positive.

$$F/Y = 0.0071 + 0.14889\ E\text{-}02\ (T) \quad R^2 = 0.516 \qquad (19)$$
$$\qquad\quad (1.44) \quad (5.56)$$

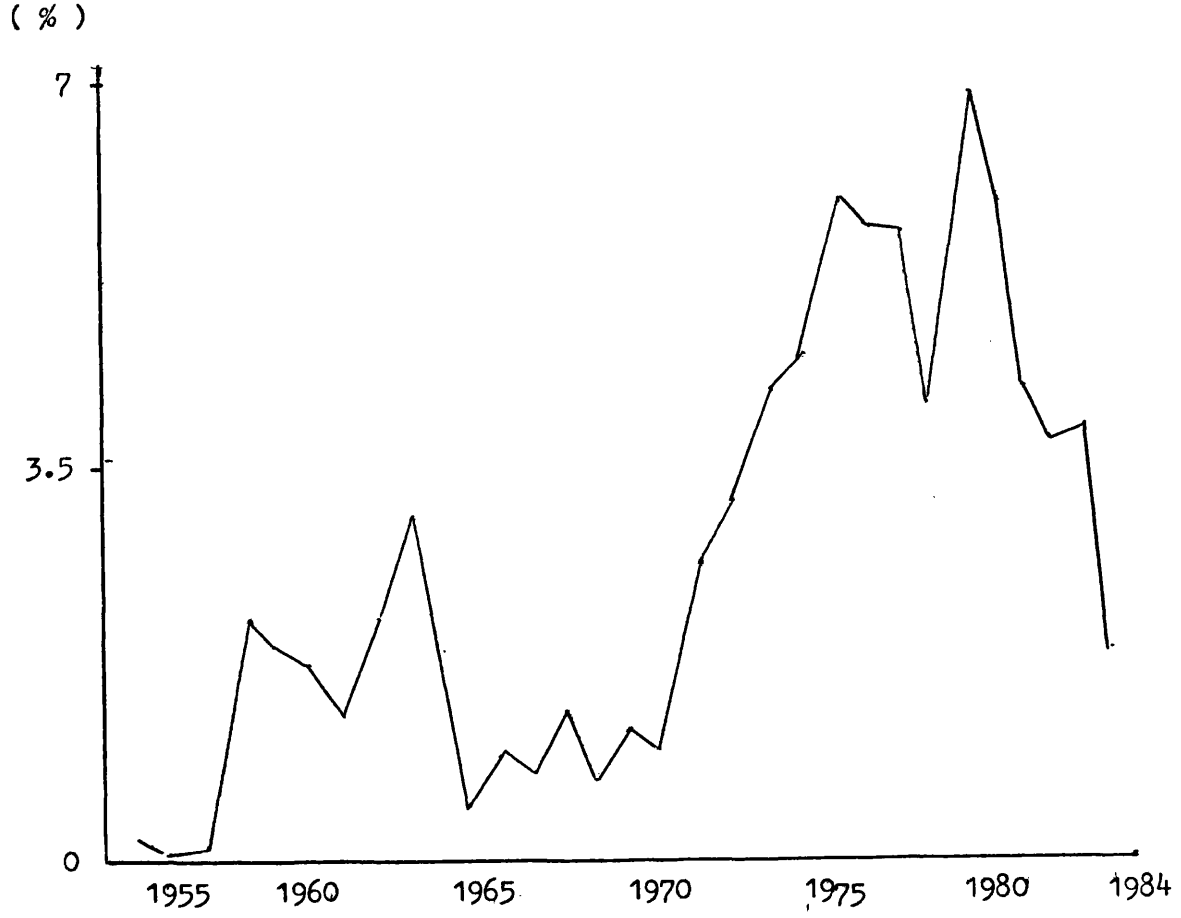
(Fy is the foreign aid ratio, T is the trend and the figures in parenthesis are the t-ratios. At 5 per cent level of significance, the t-ratio for the trend is critical, signifying the reliability of the coefficient. The constant appears to be insignificant in view of the low value of t-ratio).

The foreign aid ratio has been plotted on graph and it appears below as Figure 6:3 (next page).

An inspection of the above plot reveals a number of peaks and troughts which can be associated with a number of local and international political occurances. The 1957 peak was the climax of the effort which the colonial government was making to mobilize resources for the development of infrastructure.[15] The 1958-60 fall is the period of independence arrangements which certainly saw the weakening of effort on the colonial government to continue investing more on infrastructure in the country. The 1964-70 decline stands for the period when the country was involved in a diplomatic row with the traditional source of aid, especially Britain, USA and West Germany. The causes of hostilities were the unilateral declaration of independence by Rhodesia (now Zimbabwe) and the establishment of diplomatic ties with the German Democratic Republic.[16] The sharp

rise after 1970 and ending in 1978 signified the change in direction of aid seeking, which saw the alignment with new sources of aid such as Scandanvian countries, the Netherlands, China, Canada, Japan and the World Bank.[17] Finally, the drop from 1979 reflects on the period of protracted negotiations with IMF which have kept aloof some of the main donors who have been looking forward for an agreement.[18]

FIGURE 6:2. FOREIGN AID TREND.



Besides these political factors which somehow influenced the direction of foreign aid share, what other factors made a similar influence? We provide an answer in the next Section.

V. FOREIGN LOANS/GRANTS - TIME SERIES ANALYSIS

A meaningful factor that the foreign aid factor could be associated with is the share of exports in GDP. The support for the export share has been its association with the country's creditworthiness or ability to meet its foreign obligations. In recent years, particularly in the late 1970s and early 1980s, LDCs have fallen into serious debt problems, especially in fulfilling their debt related commitments, apparently due to their inability to export enough. Tanzania itself has been facing this problem. This has led to difficulties in meeting its maturing debt obligations,[19] and in turn she has failed to improve on her aid inflow, as can be seen from the upper part of figure 6:2 above where the share of aid has been falling. Therefore, the export factor which is considered to have a great bearing on debt procurement and servicing, is regressed upon the aid factor to see if there is any association. The regression is done in both linear and non-linear (double logarithmic) function. In the case of linear function, an additional 'dummy' explanatory variable was included. The dummy variable is set in line with the political factors which were highlighted above in Section IV. The setting of the dummy variable is as follows: where political factors involved had a negative influence on aid inflow, a value of -1 has been allocated. Where the political factors were of positive nature, then a +1 has been used. 0 (zero) has been used where political factors did not appear to have played a distinct role. Thus -1 has been used for the periods 1958-60, 1965-71 and 1980-84; while +1 has been used for 1972-1979.

The results for the regressions appear below.

$$FR = 0.075445 + 0.1740816(X) + 0.01092(D) \quad R^2 = 0.60 \quad (20)$$
$$(8.6) \quad (-5.05) \quad (4.22) \quad df = 28$$

$$\log FR = \log 5.26866 - 1.0879 \log X \quad R^2 = .24 \quad (21)$$
$$(-9.96) \quad (-3.04)$$

(F/R stands for foreign aid share. X is the export share and D is the dummy variable with 'O' value for the year 1954-57 and 1961-64 while '+1' value is for the years 1972-79 and '-1' value for 1958-60, 1965-1971 and 1980-84, all as explained in the text above).

Equation (20) which appears to be more reliable due to its high value of R^2 (=.60) has critical values of t=statistics as well which implies that the coefficients are signficant at the 5 per cent level of significance. Interesting though is the inverse relationship between the foreign aid factor and the export ratio. The interpretation of the inverse relationship could be that the foreign aid are secured when performance in exports is rather low. This implies that when export performance is good, there is less begging for aid to support imports. The latter argument could hold for Tanzania where most of the aid is secured to support the government development budget, which is actually obtained through bilateral and multilateral arrangements rather than from the open private money and capital markets. This also implies that in times of high exports, the economy must have performed well too, given that exports are mainly agricultural in nature. Since agricultural output dominates in the

national output, this has the effect of having the government earn more revenues which could be used to finance the development budget, supported also with enough foreign exchange. We have already seen above that the revenue ratio is influenced significantly by the agricultural share. Moreover, realising the problem of budgeting in LDCs, and if on a priori grounds, we may accept the view, that foreign aid budget in LDCs is a financing requirement residue of the total budget rather than an autonomous properly planned budget, then the export-aid relationship observed above could be expected. Thus the aid would be supplementing the export earnings.

Looking at the dummy variable used, the results have confirmed the important role played by the political events mentioned earlier in determining the pattern of foreign aid.

As regards the results of the logarithmic fit, equation (21) above, the ciritical values of t-ratios clearly show that the coefficients are significant, in spite of the equation being less reliable due to the low value of R^2 (=.24). The 1.1 coefficient on log X which is greater than unity implies that foreign aid is modestly elastic to exports.

VI. DISAGGREGATED CURRENT REVENUE - TIME SERIES ANALYSIS

The recurrent revenues which have been decomposed into the various components, namely indirect taxes, direct taxes, foreign transaction taxes, local transaction taxes and income taxes, will be tested for their secular growth or decline. Our hypothetical setting is that the various tax components have had an upward trend overtime.

The various ratios were regressed on time using a linear fit. The results appear below on Table 6:4

TABLE 6:4. REGRESSION ANALYSIS RESULTS

(PERIOD COVERED IS 1953/54-1982/83)

(FIGURES IN PARENTHESES ARE T-RATIOS).

EQUATION	R^2	Eq. No.
$Td/Y = 0.02548 + 0.00128\ (T)$ $(7.9) \quad (7.3)$	0.65	(22)
$TD/T_R = 0.2353 - 0.00668\ (T)$ $(15.1) \quad (0.78)$	0.02	(23)
$Tid/Y = 0.03281 + 0.00384\ (T)$ $(6.7) \quad (14.6)$	.88	(24)
$Tid/T_R = 0.357 + 0.008395\ (T)$ $(18.2) \quad (7.8)$	.68	(25)
$T_F/Y = 0.0435 + -0.00305\ (T)$ $(11.2) \quad (-1.43)$	.07	(26)
$TF/T_R = 0.319 - 0.00607\ (T)$ $(16.25) \quad (-5.7)$	.52	(27)
$TL/Y = -0.0105 + 0.00396\ (T)$ $(-1.75) \quad (12.17)$	.84	(28)
$TL/T_R = 0.03197 + 0.014\ (T)$ $(1.56) \quad (12.6)$	.85	(29)
$Ti/Y = 0.02429 + 0.001322\ (T)$ $(7.68) \quad (7.71)$	.67	(30)
$Ti/TR = 0.2282 + 0.00953\ (T)$ $(14.2) \quad (1.08)$	.03	(31)

Key to symbols used

TD - Direct taxes

Tid - Indirect taxes

TF - Foreign Transaction Taxes

TL - Local Transaction Taxes

Ti - Income Taxes

TR - Total Recurrent Revenue

Y - GDP

T - Trend

The direct taxes shares are represented by equations (22) and (23). In the case of equation (22), we observe that the direct taxes to GDP ratio has been growing over the period. The t-ratios and the correlation coefficient are critical and significant respectively. For equation (23), the direct taxes to total taxes ratio does not appear to have changed significantly with time. The R^2 (=0.02) and the t-ratios for time factor are both insignificant thus limiting the reliability of the results. The latter results confirm observations made on Table 6:1(a) above where the direct taxes were seen to have been erratic with little sign of growth.

In the case of the indirect taxes shares presented in equations (24) and (25) below, in both respects, the ratios have been growing over time. The t-ratios and the R^2 are high enough thus indicating that the fit and the coefficients are significant. This upward trend was also observed in Table 6:1(a) for indirect taxes.

In the case of the foreign trade taxes' shares presented in equations (26) and (27) below, the results are not significant for equation (26) ie. where the taxes are considered as a ratio of GDP. The low value of R^2 which is 0.07 clearly shows that the fit is very poor. Moreover, the t-ratio for the time coefficient is not critical. The latter implies that there was no secular growth during the period. However the results of equation (27) show that there was a secular decline as indicated by the negative coefficient. The latter certainly corroborate the observations made on Table 6:1(b) above where the foreign transactions taxes (as a total) was seen to be falling, especially from mid-1960s although the export duties (with an almost insignificant share) had shown some growth up to late 1970s.

The import duties comprised most of the foreign trade taxes and their declining trend from mid-1960s is the one mirrored by the total foreign trade taxes. The decline in the foreign trade taxes can be explained mainly by the fall in exports (see Chapter 3 p. 67). The exports as a ratio of GDP fell from a level of 28.9% in 1964 to 7.8% in 1982. This has consequently implied a strangulation of imports financed by export earnings. The considerable rise in imports (in absolute terms) as seen above (Chapter 3 p. 67) can be accounted for by the increase in foreign aid, the imports of which are of capital nature (between 1972 and 1980 more than 50% of the imports were of machinery, transport equipment and intermediate inputs nature. See chapter 3 p. 66) and are not taxed in any case. However, since 1978 the imports as a ratio of GDP have been declining, a phenomenon which tends to undermine further the relative contribution of the tax base to the revenues. Secondly, with the increase in industrialisation, especially the import substitution type, there has been some reduction of certain types of exports and imports. The raw inputs into the new industries such as coffee, cotton and sisal etc. reduce what could have been exported easily. Equally, the output of the new industries cater for the home market for the consumable goods, which has meant cutting down on imports of similar goods. In view of the disappearing exports and the reduction in taxable imports, it is not supprising to find that the share of foreign trade taxes in total taxes declines with time as total tax revenues increase. The above trend of events certainly give way to other local transactions-based taxes as will be seen below.

In the case of local transactions taxes, [equations (28) and

(29)], we observe that there has been a growth with time. On both equations the fit is quite superior, and the t-ratios are quite critical. Since this type of taxes comprises mainly of local consumption taxes such as sales tax, excise duties, licences, etc. the results tie-up with the argument advanced in respect of the declining foreign transactions taxes. It is interesting to note that the sales taxes started rising when the import duties, for example, started to decline, as can be seen from Table 6:1(b).

Finally, in the case of the income taxes (equations (30) and (31) above), i t is only in the case of the income taxes ratio to GDP (eq. (30) where we find the results are to be reliable. The equation has a high value of R^2 which is 0.67, and the t-ratio are critical thus confirming the significance of the coefficients. This also means that there has been a secular growth of the ratio with time. For the income tax share in total revenue, the value fo R^2 is very low at 0.03 thus limiting the reliability of the results. Moreover, the t-ratio for the trend is insignificant thus indicating that the coefficient is not significant. So, the share of income taxes in total taxes has not been growing. From Table 6:1(b) above the income taxes ratios were seen to have been quite static. This result could well be in line with what theoretically could be expected on Tanzania. As pointed out by Musgrave, income taxation can be important, only when economic organization has been developed with production and sales establishments becoming larger and more permanent, private firms operating more efficiently, accounting practices improved thus making it possible to tax business income effectively etc. Similarly rural subsistence sector with concentration of employment in large

establishments is important for effective operation of income tax system.[20] In Tanzania, just about 10 per cent is the industrial contribution to GDP. There still exists a relatively large rural (subsistence) sector. With these draw-backs, we cannot expect to find an elaborate income tax system that would contribute an increasing share in total revenues.

The results observed in this section will be corroborated further by the test-work to be done in the next section where the various tax ratios are tested for their influence by other factors.

VII DISAGGREGATED CURRENT REVENUE - TIME SERIES ANALYSIS

In this section the tax components as outlined in Section VI above will be examined further. The hypotheses to be tested are those relating tax structure to economic development. For the purpose of stating the hypotheses, the tax components are divided into the indirect and direct taxes. The other subdivisions tested above, namely foreign transactions taxes, local transactions taxes and income taxes are expected to fall in one of the latter categories.

The first hypothesis to be tested states that the ratio of 'indirect' to total taxes is related conversely to per capita income. The construction of the hypothesis in this way is in line with the position taken by Richard A. Musgrave. His supportive argument for such construction is that in low income economies the economic structure is not suited to the imposition of direct taxes. But indirect taxes can be imposed more readily.[21] Although Musgrave's empirical work was based on cross section data of various developing economies, however, the same hypothesis can be applied to Tanzania. The underlying assumption in the hypothesis is that high ratio of indirect taxes would be associated with low per capita incomes.

The second hypothesis to be tested states that the ratio of 'direct' to total taxes is related positively to per capita income. The assumption in this case is that higher economic development makes it possible for direct taxes such as income taxes to play a more significant role than the indirect taxes.

The regression results for both linear and logarithmic fit appear in Table 6:5 below. The indirect taxes results are represented by

equations (32), (33), (34) and (35) below. Equations (32) and (35) relating to indirect taxes and local transactions taxes' do not confirm the hypothesis. The inverse relationship anticipated between the tax shares and per capita income is not there. However, equation (33) which relates 'foreign transactions taxes share to per capita income confirms the hypothesis. Similar results are observed when a logarithmic fit is used as appears in equation (34) below, although the fit is a bit inferior to that of equation (33). The results of equations (32) and (35) might just point to the low level of economic development in Tanzania which implies that the indirect taxes still play a very significant role.

When indirect taxes are taken as a ratio of GDP (see equations (36), (37) and (38)), the results of equation (36) and (38) indicate that such taxes have been growing with per capita income. In the case of equation (37), the foreign transactions taxes appear to be related inversely to the per capita income.

TABLE 6:5. REGRESSION RESULTS ON TAX STRUCTURE.

(PERIOD COVERED IS 1953/54-1983-84)

EQUATIONS	R^2	Eq. No.
Tid/T = 0.4049 + 0.941E_04 (P) (20.8) (5.78)	.53	(32)
TF/T = .3053 - .871E_04 (P) (25.2) (-8.61)	.72	(33)
LogTF/T = Log1.743 -0.506LogP (3.5) (-6.77)	.61	(34)
TL/T = 0.0971 + 0.1694E -04 (P) (5.25) (10.95)	.81	(35)
Tid/Y = 0.C5404 + 429 E-04 (9.8) (9.3)	.75	(36)
TF/Y = 0.0473 - 0.871E_04 (P) (17.5) (-3.846)	.34	(37)
TL/Y = 0.00746 + 0.48E -04 (P) (1.519) (11.71)	.83	(38)
TD/T = 0.22804 + 0.2028E_04 (P) (19.37) (2.06)	.13	(39)
Ti/T = 0.2232 + 0.227E _04 (P) (18.2) (2.2)	.145	(40)
TD/Y = 0.03105 + .161E_04 (P) (13.23) (8.22)	.70	(41)
Ti/Y = 0.0302 + 0.1654 E_04 (12.7) (8.34)	.71	(42)
Tid/Y = 0.0478 + 0.7646 (T/Y) (-4.53) (13.9)	.87	(43)
LogTid/Y = Log0.1745 + 1.526LogT/Y (.83) (12.5)	.84	(44)
Tid/T = 0.5469 - 0.1014 (Ay) (6.3) (-0.62)	0.01	(45)

Tid = indirect taxes; TF = foreign transaction taxes; TL local transaction taxes; TD = direct taxes; Ti = income taxes; Y = GDP; T= TOT. taxes; P = per capita income; Ay = Agricultural sector output ratio.

It might be appropriate at this point to note that the outcome of equation (33) below ties up with results reported earlier on the secular decline of the foreign transactions taxes [equation 27] above. When the results on indirect taxes are compared with those of Musgrave, we note quite a few significant contrasts. His results showed that the Tid/T ratio was related negatively to per capita income. This is certainly different from the finds in equation (32) below where the regression coefficient is positive. Another important difference in finds is on the relationships between Tid/T and Agriculture share in GDP, as represented by equation (45) above. In spite of the equation being insignificant, however, the negative regression coefficient is in the opposite of the findings by Musgrave.[22] This can possibly be explained by the rapid rise in the share of indirect taxes in total taxes in Tanzania as was indicated in Table 6:1(a) above.

Turning to the results of direct taxes as represented by equations (39) and (40) above, the results are not significant for any meaningful conclusion to be drawn because of low values of the R^2 which are below 0.15. The coefficients carry the right sign (positive) though, which would imply a positive influence. The latter results tie-in with the results obtained earlier when testing for secular growth [equations (23) and (31)].

When the direct taxes are taken as a ratio of GDP, as represented in equations (41) and (42) above, the results confirm that the tax shares are positively related to per capita income. The function appears to be a good fit in view of the high values of R^2 and the t-ratios which are also critical.

Some additional regressions were done to relate the indirect taxes to the ratio of total taxes to GDP, and the agricultural share in GDP. The results appear under equations (43), (44) and (45) above. The results of equations (43) and (44) indicate that there is a positive relationship between indirect taxes and the total taxes share in GDP. This relationship was expected because indirect taxes still contribute a significant share to the total taxes.[23] The relationship is a positive one. Equation (45) which takes agriculture share factor appears to be insignificant due to the insignificant value of R^2 which is 0.01. This lack of association is a clear indication of the rapid upward change that the indirect taxes have been experiencing relative to the dismal change in growth observed in the share of agriculture in GDP (see Chapter 3 p.49).

VIII. SUMMARY

The Chapter has attempted to analyse the determinants of tax levels and foreign receipts using the hypotheses which apply to LDCs. Significant results which either confirm or refute some of the hypotheses were achieved. Generally, both total tax revenues and foreign receipts were seen to be experiencing some secular growth. At the disaggregated tax levels, with an exception of foreign trade taxes (ie exports and import duties) all the component taxes experienced some growth during the 1954-84 period. With the exception of the foreign trade taxes, the growth in the other categories of revenues were reinforced further by the buoyancy coefficients which were greater than unity. However, the total tax revenues were found to be quite unstable. The instability index stood at 64.3% which seemed high. Such instability reflects the kind of problems that the government may experience in preparing the budget forecasts.

As regards the determinant factors of the tax levels, the results of linear regression functions indicated that per capita income, the share of mining output in GDP, the share of agricultural output in GDP, and the foreign trade sector (exports plus imports) had some significant influence on the former. Moreover, as far as the foreign receipts were concerned, two factors appeared to have had some significant influence. These were the export share in GDP and the distinct political events which occurred during the period.

Secondly, as far as the composite taxes are concerned, the per capita income appeared to have a positive influence on them, except in the case of the foreign trade related taxes. An interesting case in

this group was the indirect taxes which produced different results from those of other studies, such as Musgrave's. While the latter's findings pointed to a negative relationship between the indirect tax ratio and the per capital income, this study's findings showed a positive relationship as represented by equation (32) above. Furthermore, in the case of the agricultural share of GDP being used in place of per capita income, the results of this study were insignificant (ie there was no relationship with the indirect taxes ratio) as shown in equation (45) above, while those for Musgrave were significant.[24]

The analyses which have been carried out in this chapter were intended to identify those factors which can be used as predictor variables. As such, the influence of the agricultural variable underlines the need to consider it seriously in the process of forecasting revenues. The low instability of agricultural output relative to total revenue confirms its role in the determination of the budget forecasts. The other factor which should be considered seriously for forecasting is imports. From table 6:1 (b) above, the share of import duties used to be quite high prior to 1970s, but subsequent to this period there has been a substantial decline. Nevertheless, the share is still high in comparison to the other sources. Besides, the imports appear to be quite stable relative to total revenue stability as was shown on p. 158 above.

As for exports, the strong relationship that was observed in relation to the aid variable emphasize the fact that aid procurement is linked to the country's capability to generate export income, which in turn is used to pay back the loans. These findings suggest that the

export factor could be used in predicting the likely amount of aid which could be forthcoming.

Finally, in stressing the differences in the results between this study and other studies, we should also emphasise the fact that most of the other studies were of a cross sectional nature, which took into account only a few years' average figures for the countries included in the sample. In this study some 31 years have been covered, which I presume, reflect a lot of changes in-between. This is why the results differ quite significantly from other findings.

NOTES

1.Hinrichs, H.H. "Determinants of Government Revenue Shares among Less-Developed Countries", The Journal of Economics. Volume 75, (September 1965) pages 548-57

2.Idachaba, F.J. "Revenue Instability in Developing Countries: The Ghanaian Experience", Public Finance. Volume 30, No. 1 (1965) page 99

3.Lim, David 'Instability of Government Revenue and Expenditure in Less Developed Countries", World Development Volume 11, No. 5 (1983) page 447

4.ibid. p.447

5.Idachaba, F.J. op cit. page 98

6.ibid. p.98

7.Prest, A.R. (1968) "Public Finance in Underdeveloped Countries", page 14 London, Weidenfeld & Nicolson

8.Gemmell, Norman "Taxes Revenue Shares and income growth" Public Finance. Volume 40, No. 1 (1985) pp 141-2

9.Ehrlich, Cyril "Economic Policy in Tanganyika 1945-1960" The Journal of Modern African Studies. Volume 2, No. 2 (1964) pp 267-8

10.Hinrichs, op cit. pp 550-1

11.Lotz, R.J. and Morss, E.R. A Theory of Tax Level Determinants for Developing Countries", Economic Development and Cultural Change. Volume 18, No. 3 (April 1970) page 329

12.The concessionality aspect of loans received by Tanzania from both bilateral and multi lateral sources was discussed in Chapter 3 where it was shown that most of the loans received by

Tanzania carried very soft terms.

13. See for example a summary of views as regards the role of aid in promoting domestic savings, by Bird, R.M. "Assessing Tax performance in Developing Countries: A Critical Review of the Literature" pages 37-38 in Toye, J.F.J. ed. (1978). Taxation and Economic Development. London: Frank Cass and Company Limited.

14. See for example, World Bank (1984), Toward Sustained Development in Sub-Saharan Africa, pp.46-48, Washington D.C. The World Bank

15. Ehrlich, op cit. page 209
To finance the Development plan for the period 1947-56, an expenditure of £18 million was envisaged over and above normal annual budget. In 1950 after some £3 million had been spent, the target was raised to £24 million. Much of this capital was to come from overseas. About £6 million was given by the U.K., another £0.5 million from U.S.A. as Marshall aid and £9 million was borrowed.

16. In the 1960s the Federal Republic of Germany had used aid as a direct instrument of foreign policy, notably to prevent recipients recognising the German Democratic Republic.
see Kliemeier, L. "Domestic Policies versus Poverty Oriented Foreign Assistance in Tanzania", The Journal of Development Studies. Volume 20, # 2 (January 1984) page 177

17. Behind the rise in aid flows to Tanzania was the adoption of poverty oriented policy by most of the Western countries, the leadership resting with the World Bank which had started supporting the Integrated Rural Development Programmes. Even in

the case of Federal Republic of Germany, Britain and the United States of America, a change in governments in the first two and a congressional legislation in the latter favoured assistance to the poorest. Moreover, Tanzania found itself a favoured aid recipient due to its extreme poverty and secondly the perceived government policy to alleviate poverty. For further discussions see, Kleemeier, op cit. pages 173-178

18. See Green, R.H. Political-Economic Adjustment and IMF conditionality: Tanzania, 1974-81. pp 356-61. In Williams, J. ed. (1983) IMF Conditionality; Washington D.C. Institute of International Economics.

19. See for example, Green (ibid) page 348. He points out that as of end of 1981, the economy was characterized by extreme external imbalances (exports of the order of 50% of imports, payments arrears of over $300 million, negligible foreign exchange reserves etc).

20. Musgrave, R. (1979) Fiscal Systems page 130 New Haven and London: Yale University Press

21. ibid. page 143

22. ibid. page 147

23. Musgrave (ibid page 149) had expected such results (ie positive relationships) from his analysis, but such results were not borne out. The anticipation was on the grounds that after the direct tax rates have reached higher levels, then one would resort to indirect taxes.

24. ibid. page 144 The relevant equation is No. 34 as reproduced underneath.

$$Tid/T = 0.3875 + 0.6709\ As/GNP \qquad R^2 = 0.35.$$
$$(7.039)\quad (3.994)$$

(Tid = indirect tax revenue, As = values added by Agriculture).

PART 3.

This part examines empirically the forecasting of expenditures and revenues in Tanzania. Past forecasts are analysed by comparing them with outturns. The main objective for carrying out such analyses is to determine the accuracy with which the forecasting has been done. The causes of any major discrepancies are then explained. Besides, the variables which are used to determine the forecasts are analysed in detail. The results of the analyses of the forecast errors and the predictor variables are then used to make some recommendations on how to improve the forecasting process.

In particular, chapter 7 presents a general discussion on the prerequisites of accurate forecasting. Chapter 8 presents an analysis of tax revenue forecasting. In chapter 9 foreign loans and grants are analysed. In chapters 10 and 11 recurrent and development expenditures are analysed respectively. Chapter 12 presents an analysis of the overall budget deficit.

CHAPTER 7

BUDGET FORECASTING - AN OVERVIEW

I. INTRODUCTION

The importance of revenue and expenditure estimation in any economy, but more so for the Less Developed Countries (LDC's), can not be overemphasized. A combination of scarce resources and lack of economic certainty have a perverse impact on the budget. Expenditure programmes cannot be accomplished as preferred due to paucity of resources available. Moreover, political and bureaucratic disruptions in many LDCs have contributed to further adversity in resource mobilization for the budget programmes. In view of these latter limitations, a careful forecasting of potential revenue is necessary. Equally important is the function of allocating the scarce resources which are mobilized to the various spending programmes. Quite often, a failure to establish realistic estimates has led to what Wildavsky has termed 'repetitive budgeting'. This is a budgeting phenomenon which is characterized by a resubmission of budget estimates several times during the annual budget cycle. To quote Wildavsky's words "the budget is not made once and for all when estimates are submitted and approved, rather, as the process of budgeting is repeated, it is made and remade over the course of the year ... Instead of supplemental appropriations being relatively infrequent, the entire budget is treated as if each item were a supplement".[1] Revenue instability in LDCs is quite significant and such instability is transmitted to the expenditure programme.[2]

The dependence of LDCs on indirect taxes such as export and import duties, sales taxes etc. which depend on very unstable tax bases due to economic fluctuations in the sectors of exports, imports, local industrial capacity utilization etc. are bound to create some severe problems on the budget. Yet, the demand for more spending arising from population growth pressure and international pressure on government to satisfy basic needs, and also the need to maintain installed capacity and finance external debts, all exacerbate further the budget problem. A solution to such problems can partly be realized through prudence in projecting revenues and expenditure.

This chapter is intended to highlight the important aspects of the forecasting function in relation to the budget. It is a digest of issues which need to be borne in mind in considering forecasts. Discussion in the various sections will be as follows: Section II prensents a theoretical framework of forecasting, Section III examines some issues related to forecasting technology. Section IV presents highlights on budgetary systems, Section V presents an overview of forecasting environment in a general context and in relation to Tanzania. Finally, Section VI presents a summary and highlights of the analytical work to be undertaken in the next four chapters.

II. THE THEORETICAL FRAMEWORK OF FORECASTING

This Section provides a conceptual overview of forecasting, with emphasis on forecasting methods and the choice of technique or methodology with reference to Tanzania's situation. Hyde et al. have pointed out that forecasting methodologies can be separated into two distinct groupings: Qualitative Methods and Quantitative Methods. Qualitative Methods rely on managerial judgement where data are usually not readily available or applicable to the forecasting situation. Quantitative Methods generally require inputs in order to generate forecasts. In less complex methods, historical data is needed through which patterns are identified to predict future values. In more complex methods, both historical and future values of the exogenous variables are needed over the forecasting horizon.[3] However, the two methods are not mutually exclusive and in some cases they are combined for the purpose of making the forecast.[4]

In choosing the forecasting method, there are a number of issues to be considered. Foremost is the purpose for which the forecast is to be used which will determine the level of accuracy required. Accuracy is essential in forecasting. As Klein puts it: "Accuracy of the forecast is the 'bottom line' for the professional forecaster, much as profit is the 'bottom line' for the chief executive of an enterprise".[5]

The implications of the forecasts to the economic and social systems have to be clear in the mind of the forecaster in order to choose the right technique. Secondly, the dynamics and components of the system for which the forecasts will be made. The interacting variables and components of the forecasted environment have to be

identified. It is from such variables that a model of causal relationships can be designed to form the basis of the forecasting situation. A third relates to the importance that has to be attached to the past in estimating the future. If quantitative methods have to be used, then the historical data required have to be known. It is from such past data that future values will be extrapolated. Sometimes past data might have no bearing on future values due to a change in circumstances in which case resort to qualitative methods has to be made. Alternatively, present or recent policy changes may require a significant qualitative input to augment the quantitative methods chosen. For example, a recent change in tax policy may not be apparent in historical data. The latter might necessitate an adjustment on the historical data before the data base can be manipulated and then extrapolated.[6]

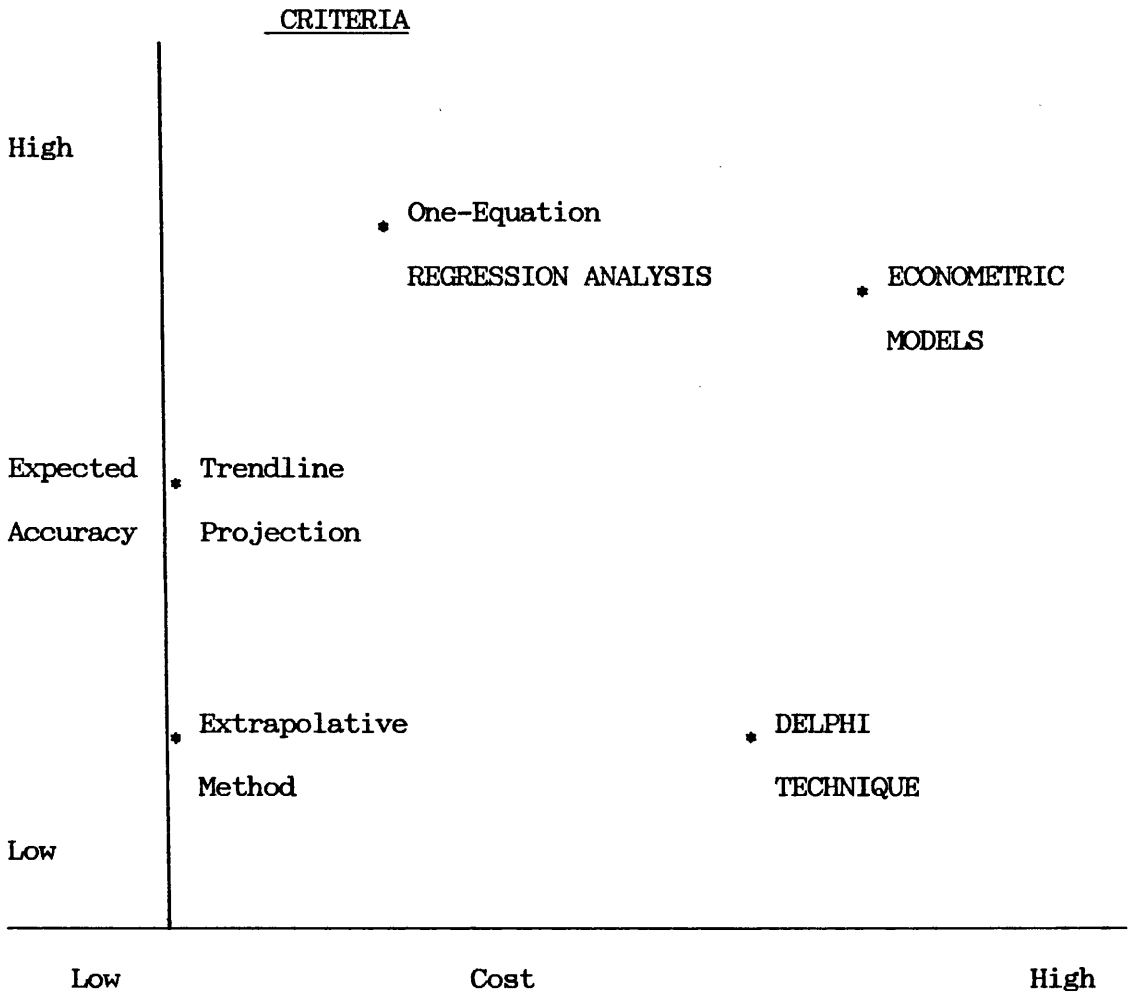
Besides the issues listed above, the basic characteristics of each forecasting technique should be considered before selecting an effective forecasting methodology. Hyde et. al. have pointed out six such characteristics, namely: time horizon, pattern of data, type of model, cost, accuracy and ease of application.

"Time horizon" refers to the period that is being forecasted. One has to be clear as to whether the forecast is for one year ahead or (is more a multi-period one). Knowing the time horizon helps to choose a forecasting method that can give the best results. Similarly, one has to have a clear picture of the 'data pattern' before choosing the method. A chosen method which works on historical data should be able to predict the turning points in the data pattern, particularly when the data pattern is rather erratic.

When a methodology has been chosen, it is important to decide on the type of model to use and the underlying assumptions. The model may be a series in which time is viewed as the important element to determine changes in the pattern, or it may be statistical in nature such as regression or correlation analysis or even econometric models. What then should we look for in a model? Wheelwright et. al. has summarized in pointing out that "the importance of the model is not so much that the decision maker must understand the mathematics of each one, but rather that the assumptions underlying each of them are different, and the capabilities of different models in different decision making situations do vary".[7]

The cost implications of any technique chosen has to be known as well. The cost factor can be broken down into three main components. There are development costs, storage costs and actual operation costs. And there is also the opportunity costs for other techniques that might have been applied.[8] Related to cost is the accuracy factor. Accuracy depends on the complexity or strength of technique chosen. The more complex a technique, the more accurate it is likely to be which also imply higher costs. A decision has to be made between high costs for good forecasts and low costs for bad forecasts which could kill the best of plans. A rough sketch of the various techniques plotted on a cost-accuracy plane appears below on Figure 7:1

FIGURE 7:1: FORECASTING METHODS IN TERMS OF COST AND ACCURACY



Source: Adapted from Hyde et. al. op cit p 270

Finally there is the factor of ease of application. This factor demands that the users of forecasting methods should use those methods which they understand. In other words, decision makers should endeavour to understand the methodology or the forecasts before they can have the confidence in their ability to apply the forecasts in a particular situation. Hyde et. al. considers the latter to be an important consideration especially in determining revenue estimates,

because the decision makers are generally one step away from the forecasting machinery. As he points out, "as increasingly scientific and more complex methodologies are employed in determining revenue estimates, the ability of government decision makers to understand the derivation of those estimates decreases, and therefore confidence in those estimates may diminish even though accuracy increases".[9]

Most of the quantitative methods which can be used appear on Figure 7:1. They can be grouped under two broad catergories. They include trend extrapolative models and causal models. The trend extrapolative models involve extension or extrapolation of the existing time trend, and they consider the past observations of a specific system, the budget environment, and then project into the forecast horizon what the continuation of the trend will bring. They do not however, take into account factors other than time. The system, or generating process is assumed to be constant.[10]

On the other hand, the causal methods consist of regression analysis and econometric simulation models. The latter assume a cause and effect relationship betwen the inputs of the system and the output generated. Stated differently, a set of independent variables are related to the dependent variable, and changes from year to year in the independent variable should accurately determine the change in the dependent variable. In contrast to the extrapolative methods, here the generating system is analysed and assumed relationships are determined.[11]

Nevertheless, having these quantitative models is not a full guarantee against forecasting errors. A number of factors could contribute to errors. As pointed out Mosley, such errors could be

caused by the following events:

(i) Changes in data about the past after the forecast is made.

(ii) Incorrect forecast or assumptions for exogenous variables.

(iii)Errors in the specification of the model.

(iv) Errors of judgement in imposing coefficients in defiance of the evidence of the statistical relationship between past data. [12]

As far as qualitative methods are concerned, a number of methods have been suggested. They are mainly intuitive or judgemental approaches. To mention a few, one could have: "visionary forecasting" which involves a purely subjective estimate (or a guess) done by one individual; secondly, there is "panel consensus forecasting" which involves a group of people familiar with the situation who sit together and out of their discussion produce a forecast; and thirdly there is "Delphi forecasting method" whereby a panel of experts make independent judgements on a common question. Independence in the decision process eliminates group influence. As the experts' opinions are evaluated, forecasts are generated.

III FORECASTING TECHNOLOGY (RESOURCES)

Knowing what techniques could be used and having them put into use is quite a separate issue. Resources to put into action the forecasting have to be available. Thus, whether qualitative or quantitative methods are involved, the availability of 'human' and 'machinery' technology is absolutely essential. The more complex is the method of forecasting, the higher the level of technology one would require to carry out the task.

The 'human' technology can be viewed as the technical experts - whether an individual or a group, who could be entrusted with the task of doing the forecasting. Considering the various forecasting issues discussed above, one will find himself dealing with a multitude of social, political and economic factors. This implies that only people who are well versed in such environment can handle the situation. Secondly, the analytical work and judgemental insights involved in forecasting requires high levels of skills or expertise. Thirdly, the fact that the analytical methods mentioned above would require many valuable man hours has the implication that a reliable human resource base has to be established. Ideally, what should this technical task force comprise of? Though the emphasis would be on forecasting specialists, however, the policy interests of all the pressure groups, especially the party, the politicians and the bureaucrats have to be taken care of. To accomplish this, the task force has to comprise of knowledgeable personalities from all walks of life. These experts would be positioned in every department where forecasting is done.

The second type of technology needed is machinery, especially computers. Analyses which require the use of causal methods such as

multiple regression analysis, and econometric models, cannot be done accurately, on time and at minimal costs by manual methods. High speed electronic data processing equipment for storage of data, for quick retrieval and for prompt analysis is essential. Therefore, remarkable achievements in revenue and expenditure forecasting can be attained with improved technology in processing equipment.

The developed nations have no problems in both the human resource and high technology. In LDCs, improvement in forecasting is bound to remain low due to lack of both technical experts and hard currency to acquire high technology. In later chapters, it will be demonstrated the extent to which lack of machines thwarts efforts to improve budgeting in Tanzania.

IV. BUDGETING SYSTEMS.

It is worthwhile though at this juncture to mention some of the broad methods (traditional and reformed) which have been used to predict expenditure in certain countries. These are Traditional Budgeting (TB); Zero Base Budgeting (ZBB) and Planning Programming Budgeting Systems (PPBS).

With TB, the basic characteristics are that the expenditure items are classified on line-item basis (such as personnel or maintenance). The time horizon is normally one year and is on cash basis. The projections are done on an incremental basis, whereby only increases or decreases to the existing base (the prior year expenditure) are considered.[13] The latter is a simplified version of trend extrapolation, which considers only the one past year historical data. If TB is assessed for its accuracy using Figure 7:1 above, its simplicity would imply low accuracy and low costs. The implied dangers of using TB is well put forward by Wildavsky. He pointed out that "Comparing this year with last year may not mean much if the past was a mistake and the future is likely to be a bigger one. Quick calculations may be worse than none if it is grossly in error". [14] A variant of the TB is what Wildavsky has termed "repetitive budgeting" (RB). The latter differs from TB in two main respects. First it covers shorter periods than a year, and secondly, the underlying economic conditions reflect volatility and a high degree of resource limitation (poverty) which create uncertainty. Poor countries could be culprits of such a type of budgeting. Under RB, adaptiveness is maximized but predictability is minimized.[15]

In response to weaknesses in TB especially, alternative reformed

approaches were initiated which would accommodate comprehensive calculations in the budget projections. These were the ZBB and PPBS. ZBB's approach to budgetting is one of re-examining the base of existing programmes activities and exploring the effects of reducing or reallocating the current levels of resources rather than taking for granted the base of existing programmes.[16] At the core of ZBB is policy analysis. Resources are allocated according to the government policies. The four stages which are followed in ZBB appear in Chart 7:1.

CHART 7:1: ZERO BASE BUDGETING

Re-examine existing programme activities	→	Examine programme alternatives	→	Set Priorities among existing and alternative programme activities	→	Re-allocate resources from lower to higher priority activities

START → END

Source: Wholey, J.S. (1978) Zero Base Budgeting and Programme Evaluation. (p. 4) Lexington, D.C. Heath and Company.

If an effective ZBB is implemented, one could expect the following benefits to accrue.[17]

(i) the budget process would be focussed on a comprehensive analysis of objectives and needs.

(ii) it would combine planning and budgeting into a single process.

(iii) it would cause bureaucracy to evaluate in detail the cost-effectiveness of their operations and

(iv) it would expand bureaucracy participation in planning and budgeting at all government levels.

The above brief outline of ZBB, leaves us in no doubt that the approach is not a simple one. A full implementation would certainly require high costs in terms of resources and time. Wildavsky provides us with a clue about ZBB's ease of application. He pointed out that "ZBB provides a-historical information system. The past as reflected in the budgeting base is explicitly rejected. Everything at every period is subject to searching scrutiny. As a result, calculations become unmanageable".[18]

On the other hand, PPB can be seen as an extension of ZBB. PPB compares alternative expenditure packages to decide which best contributes to larger programme objectives.[19] The PPB system which had its origin in U.S.A., involves three levels of management. First is the 'policy management' responsible for; identification of needs, analysis of options, selection of programmes, and allocation of resources; second, the 'resource management' responsible for establishment of basic support systems viz., improvements in basic budget structures, financial management practices; third, 'programme management' responsible for implementation of policies and related operations, namely accounting, reporting, and evaluation.[20] Ideally, PPB has three major ingredients, namely: (i) structural aspects, dealing with the classification of government transactions, (ii)

analytical aspects, dealing with the application of quantitative criteria for the determination of appropriate programmes, and (iii) information aspects, dealing with the development of supporting systems that help policy formulation and appraisal.[21] Programmes are evaluated and those which are found to produce superior results are chosen. The rationale for PPB lies in its connectedness in that like programmes are grouped together. As Wildavsky puts it, "programme structures are meant to replace the confused concatenations of line-items with clear differentiated, non-overlapping boundaries: only one set of programmes to a structure. This means that a change in one element or structure must result in change reverberating throughout every element in the system".[22]

The PPB, like the ZBB, involves comprehensive calculations which stress effectiveness. Goals have to be identified and cost-benefit analysis applied to assess alternatives. This comprehensiveness takes time and this is not an asset in responding to fast-moving events.[23] As pointed out further by Premchand (1983: pp.328-331), specification of goals and objectives is a difficult task. Similarly, assigning monetary value to benefits and costs of some activities which do not have market prices is a difficult task. Therefore, the application of cost-benefit analysis becomes a problem. The use of this budgetary system has been limited, even in U.S.A. where it was initiated.[24]

The LDCs are bound to be in a more disadvantaged position in the implementation of PPB is concerned due to shortages in essential resources such as skilled accounting, finance and planning manpower, and of course, the general economic instability which makes forward budgeting unworkable.

V. THE FORECASTING ENVIRONMENT: A GENERAL PERSPECTIVE AND A REVIEW ON TANZANIA

The environment under which forecasting is done influences the outcome of the predictions. Two environmental factors will be considered. These are time allocated for budget preparation; levels of participation by bureaucrats and politicians; manpower supply; and political environment.

The "time allowed factor" in forecasting determines the level of accuracy of the forecasts. Those who work on the forecasts should be allocated enough time to handle the task. The concept of 'enough time' has to be considered in relation to the satisfaction of the other determinant conditions such as availability of predictor data, price stability etc. The accuracy with which the predictor variables can be determined will influence decisions regarding the length of time allowed for preparing the forecasts. Different countries have different time allocations for preparing the forecasts. Some countries allocate a full year or more. The latter practice is common in the developed countries.[25] For some LDCs, the time allocated is much shorter, apparently because of the prevalent economic instability. Fluctuations in LDC's production, prices of local and exported products, etc may invalidate forecasts prepared too early in advance. The existence of repetitive budgeting in LDCs is a clear indication of forecasting problems they face. In spite of the uncertainties already noted in respect of LDC's, some countries unwisely emulate the developed countries' budget timing, i.e. by allocating between twelve and eighteen months.[26] But the reality of their economic problems take them back to repetitive budgeting. In

Tanzania, the time allocated is about four months. The budget preparation is initiated by the Treasury after a review of prior year's budget performance and also after a review of current period's performance up to the middle of the year. Since the fiscal year runs from July to June, it means that the mid-year review takes place in December or January when at least two quarterly reports on revenue and expenditure have been submittted. After the review, the Treasury prepares its preliminary forecasts based on both the review results and other Dev Plan data. The preliminary forecasts are submitted to the Economic Committee of the Cabinet (ECC) for consideration and approval, after which they are communicated to Accounting Officers in other Ministries, Regions and Independent Departments as ceilings to guide them in preparing their estimates.[27] The communication is done through Treasury Circular No. 1 which establishes instructions for the preparation and submission of budget estimates, and is released between February and March. This implies that the forecasts have to be done within three and four months so as to be tabled in Parliament for debate and approval in mid-June. A summary of key days in the budget cycle appears in Table 7:1.

TABLE 7:1

Summary of key dates in the budget cycle

(FOR TANZANIA)

Date	Institution	Activity
August - November	1. Technical Institutions 2. Central Ministries	1. Review of previous financial year's activities to assess budget implementation 2. Preparation of the annual performance review 3. Formulation of preliminary guidelines and distribution of same to technical institutions 4. First quarter reports – preparation and review
December - January	1. Technical Institutions 2. Central Ministries 3. ECC	1. Mid-Year Reports – preparation and review 2. Finalization of guidelines and submission to ECC for approval 3. Distribution of final guidelines to technical institutions 4. Preparation of budget estimates
February - April	1. Technical Institutions 2. National Consultative Economic and Planning Council 3. Central Ministries	1. Submission of estimates proposals from technical institutions to central ministries 2. Scrutiny of estimates proposals by central ministries 3. Discussion of budget estimates 4. Consolidation of overall budget estimates 5. Devplan Submits Development Expenditure Estimates to National Consultative and Economic Planning Council for review and recommendation
May	1. ECC 2. Finance and Economic Committee of Parliament 3. Technical Institutions	1. Presentation of Budget proposals to ECC for review and approval 2. Printing of budget documents 3. Presentation of budget proposals to the Finance and Economic Committee of Parliament for Scrutiny, Examination and approval
June - July	1. National Assembly 2. Technical Institutions 3. Central Ministries 4. Parliament	1. Budget Speech 2. Public debate on budget Estimates proposals 3. Authorization of the budget

Source: Adapted from Ministry of Finance (1984) A Manual of the Budget Process in Tanzania. p 86

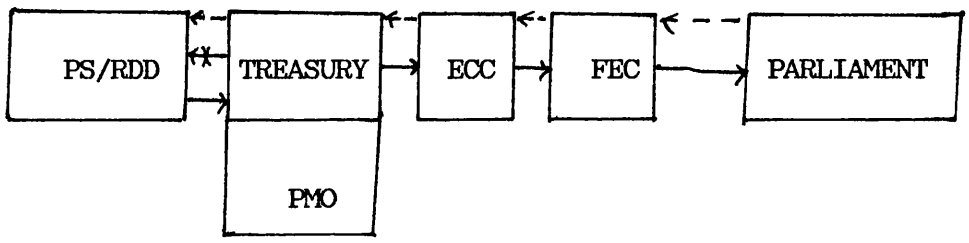
A question that one would like to pose is: does this short time provide sufficient opportunity to those involved in the budget preparation to generate reliable forecasts? One fact that ought to be grasped about the LDCs is that the forecasts prepared can be more realistic when the forecasting is done a short while from the implementation period because by then the predictor variables used in generating the forecasts would be approaching their true values. A longer period of time would just render the estimate worthless, thus returning to repetitive budgeting. However, allowing adequate time is of course not a sufficient condition for full success. Forecasts are often hampered by two other factors which I will call 'levels of participation' and 'manpower supply'.

The administrative and political participants in the budget preparation have an impact on the outcome. Equally, the level of skills and expertise of those participating affects the forecasts. It is possible that the greater the number of participating levels, the greater is the danger that each level might pay less attention to the task. This could happen where the total time available for generating the forecasts is rather short so that the participants have to rush over the task. There is also the possiblility that participants would go with the feeling that they are not accountable for the outcome because responsibility is not fixed on any particular participant. The existence of multi-participant levels is an asset when the participants are conscious of the importance of the forecasts.

For Tanzania, the budget estimates pass through a number of administrative and political levels before they are implemented. The current expenditure forecasts start with the Budget Division of the

Treasury preparing the preliminary expenditure forecasts which are passed to ECC for scrutiny and approval. The approved preliminary forecasts are passed to the Accounting Officers - normally ministerial Principal Secretaries (PS) and the Regional Development Directors (RDD). The Accounting Officers then use their machinery to prepare the estimates. On completion, the PS forward their forecasts to the Treasury for review, while the RDDs pass their forecasts to the Prime Minister's Office (PMO) for review. The reviewed forecasts, after adjustments, are forwarded to the ECC for scrutiny and approval. In case there are adjustments to be made, this is done by the Accounting Officers responsible in consultation with the Treasury. The participation by the ECC is quite important because this is the last level of administrative participation. From the ECC level the forecasts are forwarded to the Finance and Economic Committee (FEC) of the Parliament for consideration. The approved estimates by FEC are passed to the next level of participants, that is the Parliament. In practice then, the current expenditure estimates pass through five levels as shown in chart 7:2 below.

CHART 7:2: THE SCRUTINY OF CURRENT EXPENDITURE



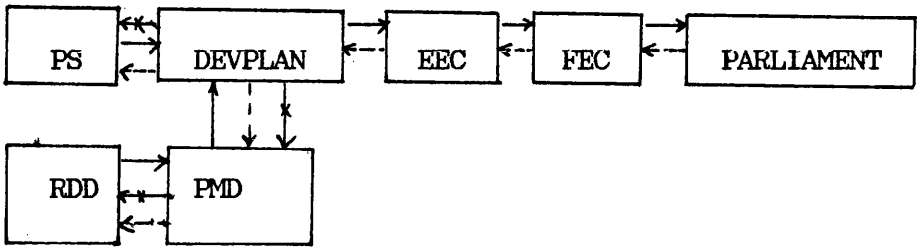
⟶ Forward Movement of Estimates for Scrutiny and Approval

---> Backward Movement of Estimates for Adjustments

⟶x⟶ Guidelines Flow

In the case of development expenditure, the preparation participation starts with the Programming, Budgeting and Control division of DevPlan preparing budget guidelines which get approval from the ECC. The approved preliminary estimates are then sent to the Accounting Officers (RDD/PS). The forecasts pepared by the PS are reviewed by DevPlan while those prepared by RDD are reviewed by PMO. Normally the Dev Plan Officers attend the PMO review. From the PMO/DevPlan level the forecasts are sent to the ECC for scrutiny and approval. From the ECC they go to the FEC for further consideration before they are forwarded to the Parliament for debate and appropriation. In short, the levels participating are as shown in Chart 7:3.

CHART 7:3 PARTICIPANTS IN DEVELOPMENT EXPENDITURE FORECASTING



—x—→ Guidelines Backward Flow

———→ Forward Movement of Estimates for Scrutiny and Approval

------→ Backward Movement of Estimates for Adjustment.

For revenue forecasts, the Treasury in collaboration with DevPlan initiate them. The Treasury makes its preliminary projections which are sent to the ECC for approval, after which they are sent to collecting agencies as guidelines. The agencies are mainly Treasury departments. In the case of domestic revenues, the agencies involved are: the Commission of Income Tax, the Commission for Customs and Sales Tax; the Principal Secretaries (PS); the Regional Development Directors (RDD); and heads of independent departments. For external revenue, the Director for External Finance is responsible for preparing forecasts of loans and grants expected during the year, which are reviewed further by the Revenue Division of the Treasury before they are sent to the ECC for scrutiny and approval. From ECC they go to the FEC for further consideration, and there after to the Parliament for approval.

Each participating level in the forecasts has to ensure that all considerations whether economic, social or political have been taken into account. Thus, the awareness of the participants in the broad

national objectives, the political aspirations, social norms and beliefs etc., is essential for the success of the forecasting task.

The 'skilled manpower' factor is also important in influencing the forecasts. In LDCs skilled manpower shortages in the disciplines of accounting, finance, economics etc., are common phenomena. The gravity of the shortage is well summarized by the World Bank: "In most developing countries, overstaffing at lower grades co-exist with severe shortages of senior professional and technical people - a shortage that can often be made good only by employing expatriates. This imbalance of skills is particularly severe in African countries: at independence, more than three quarters of the jobs for University graduates were held by expatriates. Since then, the ratio has been reduced steadily". The report continues: "While the skill shortages are hard to quantify, the World Bank finds that two thirds of its borrowing countries face serious difficulties in filling certain posts in the public sector, particularly for engineers, managers, accountants, and doctors ... These difficulties are compounded by a tendency for the more experienced staff to quit the public service in search of better jobs in the domestic private sector and abroad where they will be paid more"[28]

As forecasting entails evaluation and analysis of determinant factors, and making projections, shortages of skilled manpower could lead to guesswork. Tanzania like other LDCs, began its political independence with a very tiny fraction of its population educated even up to pre-university level. After Independence, it also took some time before it worked out a conscious manpower development programme. The latter was launched in 1964.[29] The manpower shortages in

Tanzania are further pointed out by Due, he wrote in 1962: "From the standpoint of manpower personnel, some of the countries, particularly in East Africa, would have been better off to postpone independence for five to ten years while much larger numbers of Africans were being trained for responsible positions".[30] Even though some training has been done and continues to be done, it takes a long time before those training can acquire good experience. As will be revealed in subsequent chapters, internal shortages of accountants, planners, engineers etc., have affected the function of the public budget quite adversely.

Finally, there is the political environment factor in the forecasting process. The forecasts have to be done with a bearing in mind of policies and aspirations of the political party in power. In a multiparty system, party politics and general polices are of oppositional nature. Revenue and expenditure forecasts generated under the auspices of the ruling party policies will definitely receive some challenge from the opposition. The essence of opposition is vote maximization. As pointed out by Brown et al: "The vote maximizing politician will attempt to introduce those tax and expenditure programmes that satisfy the median vote".[31]
The administrative participants have to be aware of the political motivations of the rival parties. In a single-party parliamentary system, sustained opposition on revenue and expenditure policies is less likely to emerge from within. This is so because, first, there is no vote maximization which in turn leads to complacency and secondly, especially for the LDCs, there is a lack of technical knowledge on the part of the politicians to assess fully the impact of

tax and expenditure programmes presented to them. Such systems tend to build up a lot of confidence in the administrators who prepare the forecasts. In this case the administrators have to ensure that 'public interests' are well covered in the forecasts prepared. In Tanzania, when ECC has approved the forecasts, there is little opposition expected from the political levels, namely the FEC and the Parliament itself. In short, it has to be realized that the forecasts have to be made within the political environment that prevails, over and above the other factors discussed earlier.

After examining some of the theoretical issues relating to forecasting techniques and the environmental conditions under which the forecasts are made, we can now turn to Tanzania and have a review of forecasting methods which have been recommended by Treasury. The basis for discussion is a budgeting manual published by Treasury.[32] To forecast revenues, the manual recommends a tax-by-tax analysis. For income tax revenues, there are two main sources namely, the P.A.Y.E. and profits. In the case of P.A.Y.E., tax revenue expected is supposed to be estimated from the total national wage bill. However, the manual does not state the technique to be used in making such estimates. In the case of profit taxes revenue, the basis is expected to be the total profits of parastatals and companies. Again, there is no mention of a method that will be used.[33] The second category of tax is custom duties. The outlined basis for estimating the revenue is the anticipated export earnings and likely quantum of imports as forecasted by the Bank of Tanzania. Once again, there is no mention of method to be used to generate the forecasts. The latter applies also to sales tax revenues which are to be estimated on the

basis of type and quantum of goods likely to be locally produced and imported having regard to their rates.[34] In the case of miscellaneous tax revenues from training levy, stamp duty, business licences, entertainment tax, etc., the manual is quite explicit for it points out that the basis of estimation is the annual trend for the past year.

In the case of non-tax revenues, namely parastatal dividends and other miscellaneous revenues such as user-charges for government plant and equipment, surplus transfers from parastatals, repayments on investments etc. the manual is not very clear on the methods to use. It is only in the case of the miscellaneous revenues that it is mentioned that the projection should be done on a 'straight line basis' which presumably means linear extrapolation.[35]

As for expenditure forecasts, the manual places more emphasis on recurrent expenditure. The latter falls into two main categories, namely: 'personal emoluments', and 'other charges'. For 'personal emoluments', the Accounting Officers are required to have manpower establishment (in case of changes from previous standing) approved by the Ministry of Labour and Manpower Development. Then costing is to be done using appropriate salary rates and any other statutory rates. As for 'other charges', especially for items other than those whose commitment is known such as interest on loans, statutory compensations etc., the methods proscribed for estimating such items are not comprehensive at all. For example, on the maintenance expenses for existing assets such as roads, plants, vehicles etc. the instruction by the manual is: "Budgeting for maintenance needs to be done carefully so that they can last long enough to justify initial

spending on them". It continues, "estimates for hospital, school and defence forces supplies are based on number of people in each institution,previous tender prices and the price changes.[36]

What could be said about the way the guidelines have been set is that much discretion is left to the "technical experts". Moreover, if the forecasters are to use the various factors listed under, for example, the revenue sources, it implies that the forecasters are expected to use some of the causal methods. Whether this is the practice or not, the true situation will become clear after the empirical investigation in chapters 8 to 11. However, one has to be cautious in comparing the manual guidelines with practice, mainly because the manual appears to have been prepared to assist in rectifying some weaknesses often noticed in the budgetary system, a fact that is actually acknowledged in the foreword of the manual.

SUMMARY

The Chapter has presented an overview of the fundamental issues involved in budget forecasting, together with a survey of the forecasting framework in Tanzania.

A number of critical constraints which determine whether forecasting will be a success or not were considered. These included:

(i) the provision of adequate time for carrying out the forecasting.

(ii) the provision of optimal levels of participation for both bureaucrats and politicians, which would instil a sense of responsiblity and accountability.

(iii) the provision of adequate manpower skills to carry out the forecasting task, and

(iv) the provision of stable party-political environment which minimizes conflicts in acceptance of proposed budget forecasts.

Moreover, the Chapter examined the issue of forecasting methods and the choice of techniques. The methods that can be used in forecasting were put in two categories: (i) intuitive or judgemental, and (ii) quantitative. The latter was seen to involve comprehensive calculations such as trend analysis, regression analysis, econometrics etc., The choice of a particular methodology was seen to hinge upon a number of factors: (i) Time horizon of the forecasts, which addresses

itself to the question of: what is the length of future period that is covered by the forecast? (ii) Data availability and its pattern. A model that is chosen should be able to handle the data available, while being able to pick up any erratic movements which might be observed. (iii) Accuracy. The level of accuracy required in the forecasts has to be known and this will influence decision on what technique should be used. (iv) Cost. A forecaster has to take cognizance of the fact that there are costs associated with forecasting. A method chosen has to be within the financing reach of the forecasting agency. (v) Ease of application. The method that is chosen should be one that is understood and can be used by those involved, of course having regard to other factors mentioned above.

The other major issue emphasised in this Chapter is that of developing a forecasting system which entails the provision of necessary technology, identified mainly as being of human and mechanical nature. The purpose of emphasizing this system is to underscore the need for the LDC to elevate forecasting to a point where it is considered to be crucial in the process of preparing the budget. Forecasting experts equipped with necessary machines are absolutely necessary.

While most emphasis was laid on conceptual issues, some attention was also drawn to the forecasting procedures in Tanzania. The objective in this case was to see how comprehensive were the established procedures for budget forecasting. It became apparent that the manual had not specified explicitly the methods to be used, although it had identified some of the factors.

In short, the chapter has shed some light on what to look for

when analysing budget forecasting in Tanzania. This chapter therefore provides a background to the empirical analysis that will be of the next four chapters (8-11). The investigation will include the following. First, the expenditure and revenue forecasts will be analysed in relation to the outturns. The purpose of carrying out this particular analysis is to establish the magnitude of variations between the forecasts and the outturns. Secondly, the practical methods involved in generating the forecasts are investigated, a task that involves analysing the predictor variables used in the forecasting process. Thirdly, an evaluation of the variations, in terms of their possible causes, is made. Finally, some policy recommendations are made which are based on the findings of the investigation.

The methods of analysing the forecasts and the outturns are drawn from Mosley's work (see note 12). In particular the approach of using realization functions to establish the extent of under- and over-prediction of the forecasts in relation to the outturns has been adopted.

NOTES

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4.Hyde, C.A. and Jarocki, W.L. (1983) Revenue and Expenditure Forecasting: Some Comparative Trneds: In: Golembiewski T. and Rabin, J. (ed) Public Budgeting and Finance. p.269. New York: Marcel Dekker Inc.

5.Klein, et. al. op. cit. page 1

6.Hyde et. al. op. cit. page 269

7.Wheelwright, S.C. & Makridakis, S. (1980). 3rd edition, Forecasting Methods for Management, New York, John Wiley & Sons page 9

8.ibid. p.9

9.Hyde et. al. op. cit. pages 271-2

10.Hyde et. al. op. cit. pages 272-3

11.ibid. page 272-3

12.Mosley, P. (1985). 'When is a Policy Instrument not an Instrument? Fiscal Marksmanship in Britain, 1951-1984.' Journal of Public Policy, Vol. 5, Part 1 p.74

13.Wildavksy, A. 'A Budget for All Seasons. Why the Traditional

Budgeting lasts", Public Administrative Review (November/December 1978) page 504

14.ibid. p. 507

15.ibid. p. 504

16.Wholey, J.S. (1978) Zero Base Budgeting and Program Evaluation. Lexington, D.C. Heath and Company page 3

17.ibid. p.9

18.Wildavsky, op. cit. page 505

19.ibid. p.504

20.Premchand A. (1983). Government Budgeting and Expenditure Controls: Theory and Practice. p.326 Washington D.C. International Monetary Fund.

21.ibid. p.327

22.Wildavsky, op. cit. p.506.

23.ibid. p. 506

24.Premchand, op. cit. pp. 332-33

25.USA is one example. See Wildavsky, A. (1979) The Politics of the Budgetary Process, Boston, Little Brown and Company. Appendix. The budget preparation begins in March - 20 months in advance and ends in September of next year.

26.Caiden N. and Wildavsky, A. (1974) Planning and Budgetary in Poor Countries, London etc., John Wiley and Sons p. 67. Though the authors indicate that budget preparation in LDCs is done a year or eighteen months in advance they also point out that the estimates approval process takes about six months. However, because of the economic volatility in LDCs, the authors point out that, most LDCs are pushed into 'repetititve budget' which in

effect invalidates the approved estimates.

27.Ministry of Finance and Ministry of Planning and Economic Affairs (1984); A Manual of the Budget Process in Tanzania. Dar-es-Salaam. page 27

28.World Bank (1983). World Development Report, Oxford University Press, New York etc., page 103

29.Jamal, A.H. "On restoration balance and regaining Development - an overview", Journal of Development Planning. No. 15 United Nations page 173 (1985)

30.Due, J.F. (1963) Taxation and Economic Development in Tropical Africa; Cambridge; the M.I.T. Press, page 23

31.Brown, C.V. and Jackson, P.M. (1978) Public Sector Economics, Oxford; Martin Robertson and Company Limited page 96

32. See note 27

33.Ministry of Finance et.al. op. cit. page 21

34.ibid. page 21

35.ibid, page 21

36.ibid. page 58

CHAPTER 8

CURRENT REVENUE FORECASTING - EMPIRICAL INVESTIGATION

I. INTRODUCTION

The Chapter attempts to provide an empirical analysis of tax revenue forecasting in Tanzania. In general, the analysis has its focus on the hypothetical framework of an inefficient budgetary system being a contributing factor to the present economic crisis. More specifically, the analysis is done with a bearing in mind of the hypothesis that improper specification of tax revenue forecasting variables have contributed to uncontrollability in revenue outturns.

In carrying out the analysis, some emphasis will be put on the comparison of the estimated and actual tax revenues. This involves determining prediction errors, that is the over-and-under predictions, and the association between the estimates and the outturn through regression analysis. Both aggregate and disaggregated revenue sources will be dealt with. Also, some evaluation of predictory factors will be done for each category of tax revenue in relation to the results achieved in forecasting. Moreover, the volatility of each tax source will be considered for the purpose of determining the tax types which appear to be more controllable; that is, those which are predicted more accurately, with the implication that while the more predictable sources continue to receive greater attention, on the other hand, the less predictable sources should also continue to receive some attention for the purpose of making some improvement. This involves comparing the average absolute errors taken as a percentage of the

estimates. At the same time the instability of the forecasting variables will be analysed so as to be able to determine whether they can be relied upon or not. The measure that will be used in the latter case is the normalized co-efficient of variation.

The data that are used are for the period 1967/68 to 1982/83. Needless to say, the data used in this analysis are not perfectly correct. The figures presented in different sources for some periods do differ, although not by a very big margin. So, the figures which have been taken should be considered as a best approximation of the real or actual data.

All regressions which will be done in the analysis are ordinary least square regressions. Moreover, the co-efficients are tested for their significance using t-values based on a 5 per cent level of significance.

In looking at the above analytical issues, the following order of discussion and analysis will be followed. Section II deals with the analysis of revenue forecasts in relation to outturns, while Section III presents an appraisal of the factors which are used in revenue forecasting. Section IV presents an analysis of the variations between the forecasts and the outturns. Section V explores the other possibilities available for raising more revenue. Finally, the Section IV presents a summary of the Chapter.

II. REVENUE FORECASTS IN RELATION TO OUTTURNS

(a) Regression of actual total recurrent revenues in relation to forecasted revenues

An analysis of the actual revenues in relation to the forecasted revenue led to the following observations, which are based on Table 8:1 below.

The results in Table 8:1 indicate that during the 16 years under consideration, there was under prediction of revenues in 11 periods and overprediction in three periods while in two periods the forecasts tied in with the outturn. This tendency to underestimate revenues is seen to be common in developing countries by Wildavsky et. al. Two main reasons have been given for such occurence. These are: the uncertainty that confront poor countries, which inevitably bias the estimation of revenues on the low side so as to ensure that the government will not run short of cash, and secondly, is the desire to increase the likelihood of a surplus. The latter implies that underprediction is deliberate.[1] In some of the years, the underpredictions were quite significant. Although there is no standard set for determining whether an overprediction or underprediction is beyond limit or not, however, there are cases which appear to be above some tolerable level. If we consider cases which exceed 10%, we find that there were three periods of excessive underprediction, noticeably 1973/74 (10%), 1976/77 (15.7%) and 1982/83 (28.8%).

TABLE 8:1

FORECAST ERRORS IN TOTAL RECURRENT REVENUES

PERIOD	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
*ERRORS %	8.3	-7.0	5.8	1.8	1.9	0	10.4	-7.1	2.2	15.7	6.0	-2.6	1.5	0	3.7	28.8

* The error is the ratio of difference between actual revenues and forecasted revenues to estimated revenues.

Source: The figures have been computed from actual and estimated revenue data appearing in Appendix 1.

When the errors in Table 8:1 above are examined for trend pattern using regression analysis, there is no strong pattern observable. According to equation 1(a) below, the low values of the t-statistics clearly show that the coefficients are insignificant, and also according to the correlation coefficient (R^2) = 0.104, the fit is a very weak one.

$$E = 9.023 + 0.594\ (T) \qquad 1(a)$$
$$(-0.84)\quad (1.27) \qquad R^2 = 0.104$$

(E stands for errors, while T stands for time (trend). The figures in parentheses are t-ratios).

For the periods which indicated perfect forecast - with zero error, the 1972/73 should be treated with suspicion because it appears that those who compiled the data at the Treasury took the estimates to be actuals. The latter observation can easily be arrived at by looking at the tax revenue components' figures where the forecasts and outturns are the same in nearly all cases. The disaggregated tax revenues appear in the next subsection below.

Looking at the forecasts and outturns in a more scientific way, whereby the outturns have been regressed on the forecasts, the following observations based on equation (1) below are made.

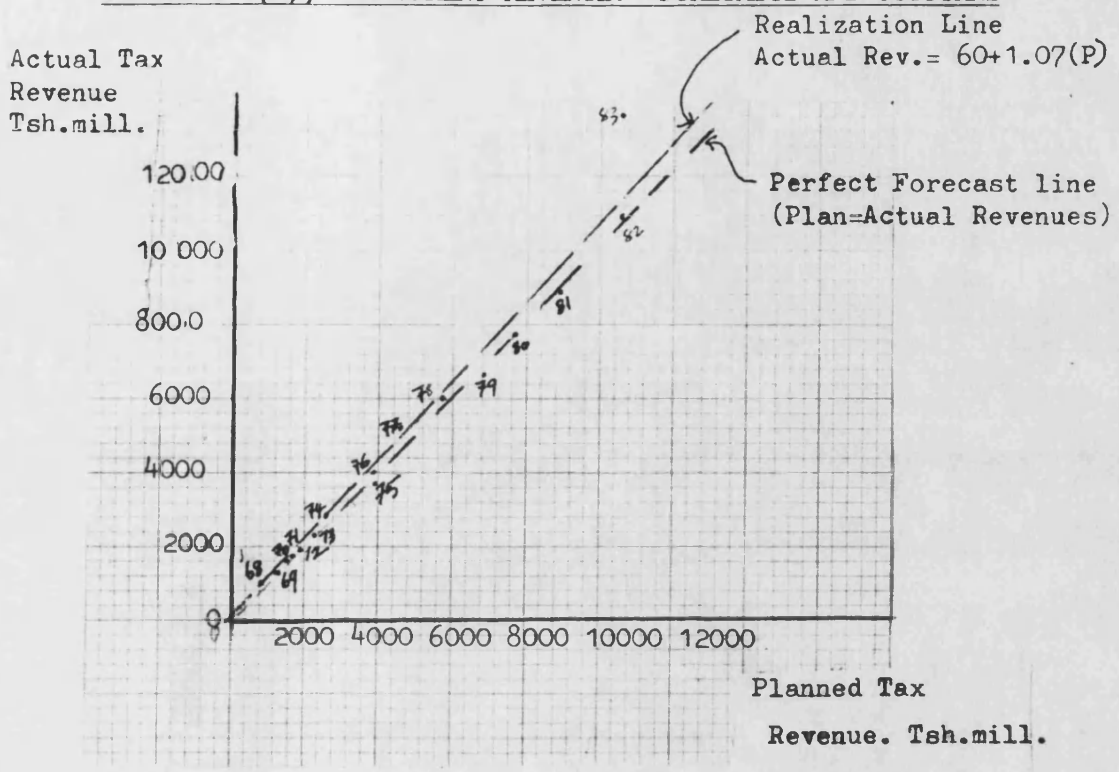
$$AR = 60.2 + 1.072(ER) \qquad (1)$$
$$(0.15)\quad (15.37) \qquad R^2 = 0.94 \text{ df} = 14$$

(AR stands for actual recurrent revenues, ER is the estimated recurrent revenues, and the figures in parenthesis are t-values).

The t-value for estimated revenues' co-efficient is high enough to confirm that the coefficient is significant. The constant is insignificant due to the insignificant value of t-statistic. The high value of $R^2 = 0.94$ indicates that the association between the estimates and the actual revenues is very strong. Although the constant is not significant, however, this is the level of actual revenues expected even if the predictory variable is zero. On the other hand, the coefficient figure on the estimate revenues which is higher than unity clearly confirm the observation made above of a tendency to underpredict. This implies that the predictory variable has to be rolled over more than once to arrive at the actual figure.

A graphic presentation (Figure 8:1(a)) of the actual revenues and estimated revenues gives a vivid picture of the underestimation that has been going on. A comparison of the perfect line which reflect a perfect forecasting situation, with the trend line representing equation (1) above, clearly shows that there has been underprediction. Moreover, the divergence of the trend line from the perfect forecast line, particularly on the upper part, clearly shows how forecasting is getting out of control. A desirable condition would be one where the two lines coincided or converged together. The causes for the variations will be discussed after an examination of the forecasts of the individual tax components.

FIGURE 8:1(a); RECURRENT REVENUE: FORECASTS AND OUTTURNS



(b). Revenue forecasts in relation to outturn of the disaggregated tax revenues.

(i) The Import Duties

An analysis of actual import duties in relation to its forecasts clearly indicates that there was overpredictions in most of the periods. The errors of prediction appear in Table 8.2 below.

From the latter table, in twelve periods out of the 16 years under consideration, there was overprediction, while in three periods - 1973/74, 1977/78 and 1982/83 there was underprediction. In 1972/73 there was a tie-up, but this situation has been highlighted in (a) above. The magnitude of the over-and-under prediction was also high. All the underpredictions were above 10%. In the case of overpredictions, the range was between -1.7% and -440%. The wide

TABLE 8:2

FORECAST ERRORS IN IMPORT DUTIES

PERIOD	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
*ERRORS %	-4.0	-7.4	-1.7	-8.7	-3.4	0	46.7	-18.5	14.1	-44.0	47.4	-5.8	-29.5	-2.8	-33.8	13.1

* The 'error' is the ratio of difference between Actual and forecasted import duties to forecasted import duties.

Source: Computed from actual and estimated data on import duties appearing in Appendix 1

variations apparently point to the difficulties involved in forecasting this type of tax, which will be discussed in Section III below. Equation 2 gives us a better picture of the relationship between the actual and estimated import duties.

$$AI = 175.32 + 0.6214\ (EI) \qquad (2)$$

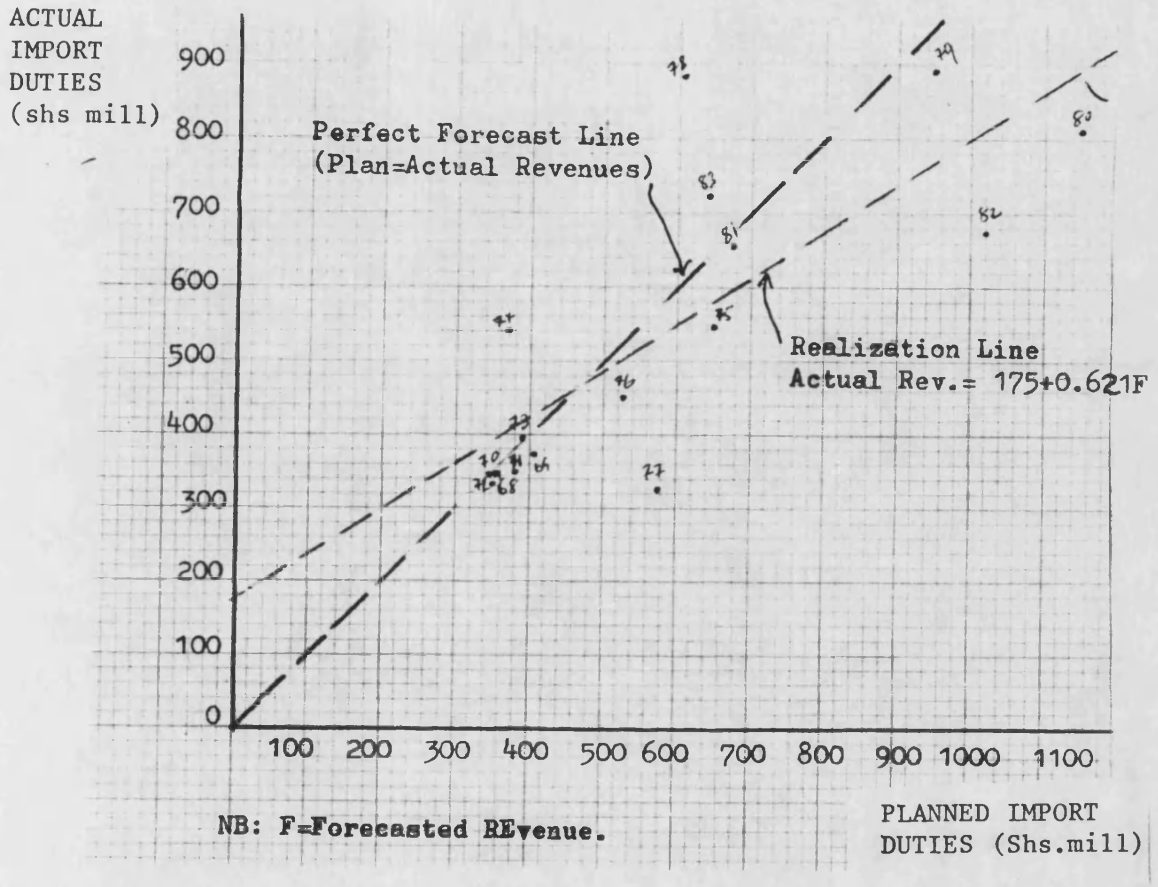
$$(1.98) \quad (4.47) \qquad R^2 = 0.59 \text{ df. } 14$$

(AI stands for actual Import Duties, while EI represents Forecasted Import Duties. The figuress in parenthesis are t-values).

On the basis of the significant t-values, the constant and the coefficient are significant. The coefficient of correlation (R^2) = 0.59 clearly shows that changes in estimated import duties account for just about 59% of changes in actual import duties. Moreover, the low value of the coefficient on EI (=0.6214), also point to the imperfection that exists in forecasting this particular type of revenue. Since we expect a coefficient that is about unity, one can only conclude that the estimation process in this case is more intuitive (guesswork) than it is a systematic one.

A further examination of the import duties from a graphical presentation, figure 8:1(b) below shows that there is no clear pattern between the actual and forecasted inport duties. The plotted points for the sixteen years are scattered all over. The situation appears to have grown worse after 1974, a point when the errors started to grow increasingly big.

FIGURE 8:1(b). IMPORT DUTIES: FORECASTS & OUTTURN.



Since we had more underpredictions in the case of total revenue above, the high level of overpredictions in this source of revenues must have been offset by another source which had an inverse pattern of predictions.

(ii) The Export Duties

The forecasting of export duties has been afflicted with problems as well. In the course of the sixteen years, under-and-over predictions have both been quite common. The prediction errors appear below in Table 8:3

TABLE 8:3

FORECAST ERRORS IN EXPORT DUTIES

PERIOD	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
#ERROR %	-17.0	-10.9	-19.0	-19.1	-26.2	0	92.9	10.9	1.0	249.6	2.8	-1.0	13.4	-46.3	68.3	2a.0

Error is the ratio of difference between actual and forecasts of export duties to forecasts of export duties.

Source: Computed from actual and estimated data on Export Duties appearing in Appendix 1.

A feature that is rather interesting in this case of export duties is the pattern of errors. In the early years, 1967/68 to 1971/72, there were only overpredictions. After this period, a mixed situation appears, although underpredictions are more dominant. Secondly, the range of errors is quite wide. They range from -68.1% to 249%. There are only a few cases of absolute errors of under 10%.

The above results were confirmed further by the regression results represented by equation 3 below.

$$AE = 25.9 + 1.033\ (EE) \qquad (3)$$
$$(.411)\quad (4.06) \qquad R^2 = 0.54 \text{ df. } 14$$

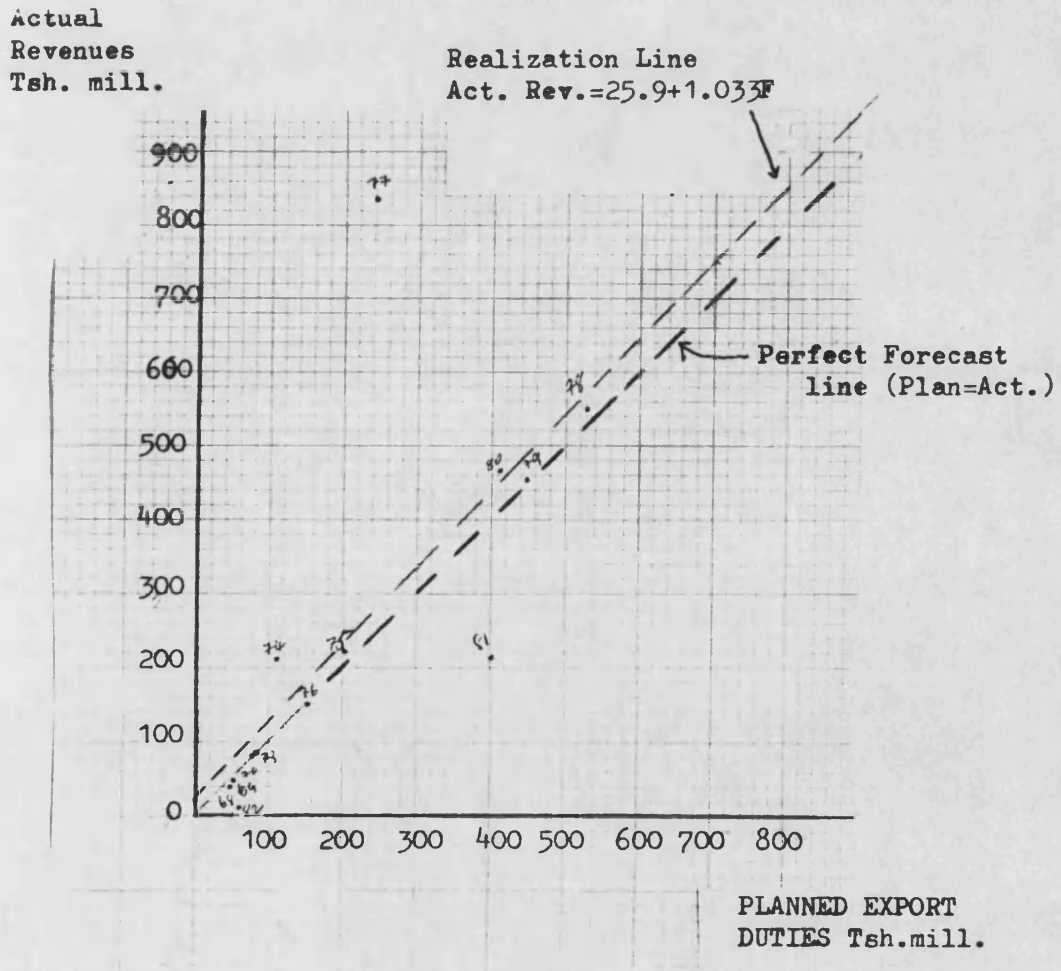
(AE stands for actual export duties, while EE is the estimated export duties. The figures in parenthesis are t-values).

The constant is insignificant due to the low value of t-statistic, while the coefficient on EE is significant. Overall, the equation accounts for only 54% of the changes in the actual export duties, which implies that the predictions have been far from perfect. Moreover, the high coefficient value of 1.033 would imply that there has been under prediction generally, which is not the case. From Table 8:3 above, underprediction was noted in only six periods while overprediction was noted in nine periods. The coefficient must have been influenced unduely by the few excessively large underpredictions, notably those for 1973/74 and 1976/77 with 92.9% and 249.6% respectively. The general results of biased underprediction are also evident from Figure 8:1c below. The regression line lies to the left of the perfect line which implies that there were more

underpredictions than overpredictions. However, more of the plotted points appear to be lying to the right of the perfect forecast line implying overpredictions.

In short, the prediction of export duties does not appear to be under control. The wide variations noticed above have certainly contributed to the variations observed in total recurrent revenues.

FIGURE 8:1(c). EXPORT DUTIES: FORECAST & OUTTURN



(iii) Consumption and Excise Duties (Sales Tax)

In this source of revenue, the predictions situation has not been very erratic, although variations of both over-and-under prediction are observable. The tendency is to overpredict. In nine periods there were overpredictions, while underpredictions were observed in only six periods. As can be seen from Table 8:4 below, the errors are of moderate size. They range between -15.9% and 11.6%. The latter results are confirmed further by the results of the regression analysis done. See equation 4 below.

$$AC = 37.48 + 0.9377\ (EC) \qquad (4)$$
$$(0.44) \quad (30.39) \quad R^2 = .985 \ df{+}14$$

(AC is Actual Sales Tax, EC is the forecasted Sales Tax, while figures in parenthesis are t-values.

On the basis of t-values, the constant is insignificant, but the co-efficient on the forecasts is significant. The high value of R^2 = 0.985 clearly shows that the relationship between the estimates and the actual data is near perfect. Moreover, the co-efficient (0.9377) which is a bit less than unity, confirms the tilt towards overprediction. The latter is also revealed by Figure 8:1(c) below, where the regression line lies to the right of the perfect forecasts line. Whether the satisfactory forecasting situation observed here is an outcome of a good forecasting system or is just coincidental will be known when the remaining sections are discussed.

TABLE 8:4

FORECAST ERRORS IN SALES TAX

PERIOD	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
#ERRORS %	+0.0	-8.9	-3.3	3.6	-8.9	13.4	11.6	-15.9	2.5	-11.7	2.5	-1.9	-8.7	-9.3	-12.0	6.2

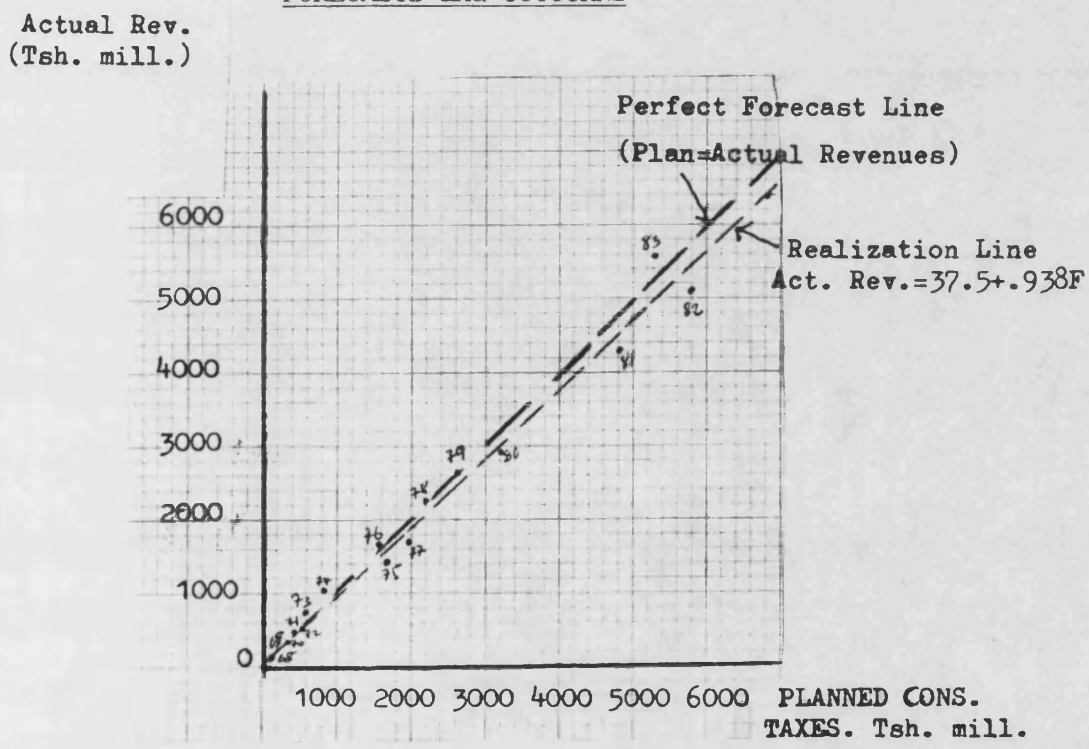
Errors in the ratio of difference between actual and estimated sales tax to estimated sales tax.

Source: Computed from actual and estimated data on consumption and excise duties appearing in Appendix 1.

However, since this source of revenue has been contributing a significant share to the total recurrent revenues in recent years,2 its forecasting performance has also helped to keep the variations in the total revenue low.

FIGURE 8: 1(d).CONSUMPTION TAXES (Excise Duties and Sales Tax):

FORECASTS and OUTTURNS



(iv)The Income and Personal Taxes

This is the second major source of revenues, besides consumption and excise duties3. The predictions in this category of tax have been quite uncontrollable. As shown in Table 8:5 below, the errors are quite large and are mainly of underprediction nature.

TABLE 8:5

FORECAST ERRORS IN INCOME AND PERSONAL TAXES

PERIOD	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
#ERROR %	0	-11.3	2.0	7.2	17.6	0	16.6	26.5	7.9	12.5	20.	20.5	30.9	34.5	81.9	44.9

Error is the ratio of difference between actual and estimated income and personal taxes to the forecasted income and personal taxes.

Source: Computed from actual and estimated data on income and personal taxes appearing in Appendix 1.

As can be observed from the above table also, the errors appeared to have been growing larger with time. Between 1968/69 and 1982/82, with an exception of 1972/73 and 1975/76, the errors grew from a level of -113% to 44.9%.

A regression analysis of the actual taxes against the forecasts revealed some interesting results as well, which in general support the observations made above. The regression equation appears below.

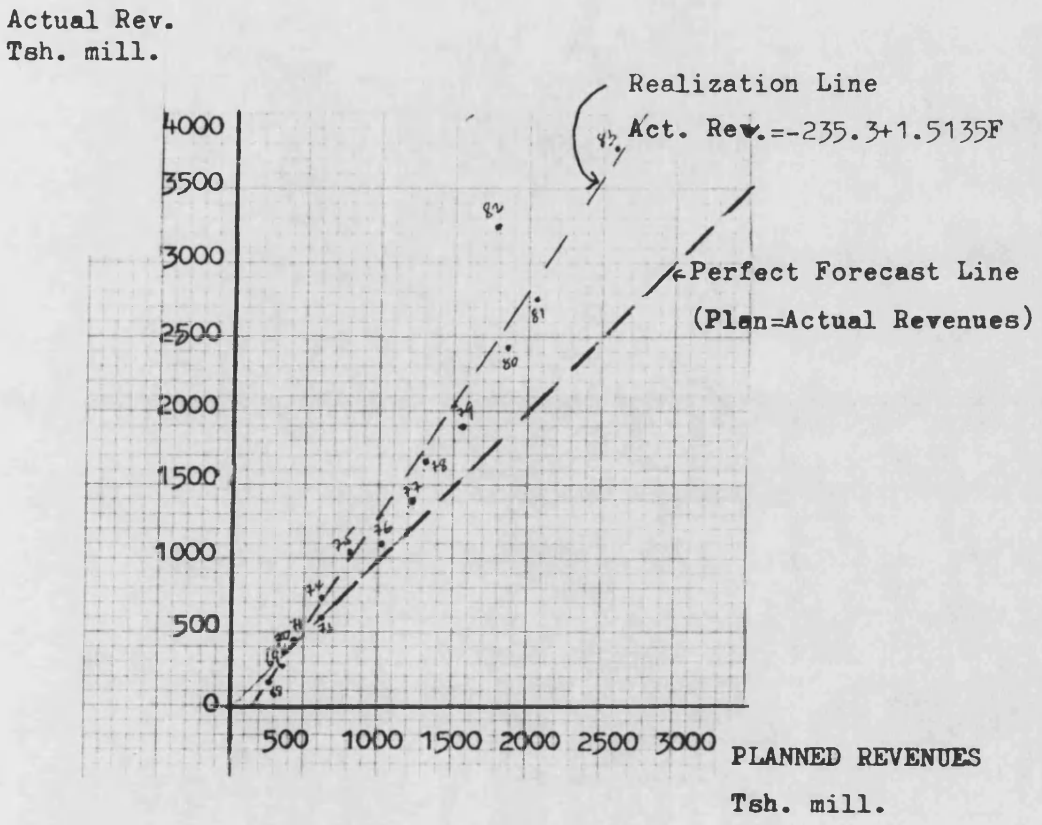
$$AP = -235.32 + 1.513\ (EP) \qquad (5)$$

$$(-2.03) \quad (16.9) \quad R^2 = .935 \text{ DF.} + 14$$

(AP stands for actual Income and Personal taxes, EP is the forecasts, and the figures in parenthesis are t-values)

In view of the significant values of t-statistics, the constant and the co-efficient on the forecast, are significant. The R^2= 0.953 also indicate a high level of association between the actual taxes and the forecasts. The negative intercept has no meaning because we do not expect to have negative tax collections when there are no estimates. However, the greater-than-unity value of the co-efficient (1.513) is a clear indication of the extent to which the estimates have been underpredicted. These results are confirmed further by a graphic presentation of the actual and forecasted taxes. Figure 8:1(e) below refers.

FIGURE 8:1(e): FORECASTS AND OUTTURN: INCOME & PERSONAL TAXES



A comparison of the regression line and the perfect forecast line in Figure 8:1(e) above confirms the point of ever growing underprediction errors. The divergence between the two lines has been growing further and further as this source of tax continues to expand. As it was mentioned earlier, this category is an important source of revenues. This means that as the errors continue to grow, which is a clear indication of lost control on the prediction process, much more volatility is induced to the total recurrent revenue. The observed phenomenon might point to a deliberate condition of concealment or a condition of conservatism when it comes to estimating the revenues from this source. This situation appears to be supporting a point raised earlier about budget makers in LDCs having a tendency to

estimate their revenues with a bias on the low side. However, a more objective assessment of this outcome can be made after a discussion of the process of making the forecasts which is done below (see p. 265).

(v) Motor Vehicles Licence and Taxes

Although this is just a small source of revenues, its analysis revealed that there were more underpredictions than overpredictions. Table 8.6 below presents the errors.The errors in Table 8:6 range from -14% to 60%. In a number of periods, particularly 1971/72, 1973/74, 1974/75 and 1981/82, the errors are quite substantial.

When regression analysis is taken on the forecasts and the outturn, represented by equation (7) below, it is observed that the coefficient on the forecast is greater than unity which confirms the underprediction tendency.

$$AM = 0.122 + 1.086\ (EM) \qquad (7)$$
$$(.22) \quad (9.95) \qquad R^2 = 0.87$$

(AM stands for actual vehicle licence and taxes; EM is the forecasted vehicle licence and taxes, and the figures in parentheses are the t-values).

TABLE 8:6

FORECAST ERRORS IN VEHICLE TAXES AND LICENCES

PERIOD	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
*ERROR %	11	-6.9	21.2	-6.8	-30.4	0	61.5	60	20	0	9.1	-14.3	-10.5	1.8	40	24.2

* Error is the ratio of difference between actual and forecasted taxes to the forecasted Vehicle Licence and Taxes.

Source: Computed from actual and estimated data on Vehicle Lience and Taxes. **appearing in Appendix 1.**

(vi) Miscellaneous Taxes and Licence

An analysis of this source of revenue shows that the predictions have actually been completely out of control. As shown in Table 8.7 below, the errors have been quite substantial, ranging from -100% to 181%. On the whole, there has been more underpredictions than overpredictions.

The significant errors make the relationship between the actual and the forecasted miscellaneous taxes and licence insignificant. The latter can be discerned from regression equation (8) below.

$$AL = 66.088 - 0.17345\ (EL) \qquad (8)$$
$$(2.7) \quad (0.706) \qquad R^2 = 0.03$$

(AL stands for the actual miscellaneous taxes and licences; EL is the forecasted miscellaneous taxes and licences. The figures in the parenthesis are the t-values).

The high value of t-statistic for the constant indicates that the latter is significant, while the coefficient on the forecasted miscellaneous taxes and licences appears insignificant. Worse still, the $R^2 = 0.03$, is so low thus rendering the whole relationship insignificant. Even the negative sign on the coefficient is unexpected. All these point to the fact that predictions in this area has been out of control.

TABLE 8:7

FORECAST ERRORS IN MISCELLANEOUS TAXES AND LICENCES

PERIOD	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
*ERROR %	+17.6	-20	8.3	-100	1811	-100.	4.5	3.7	15.9	32.6	-11.7	37.5	25.4	104.5	50.	-100.

* Error is the percentage ratio of difference between actual and forecasted miscellaneous taxes and licences to forecasted miscellaneous taxes and licences.

Source: Computed from actual and estimated data on miscellaneous Taxes and Licences appearing in Appendix 1.

(vi) Parastatal Dividend

The analysis of predictions in this category of revenue point to a mixed situation. While in the early years (say from 1969/70 to 1974/75) there were more underpredictions, the more recent years pointed to a tendency to overpredictions. Table 8:8 below gives the errors of prediction.

The magnitude of the errors is also an issue of concern. They range from -42% to 104%. A regression analysis of the actual dividends and the estimated dividends give some interesting results as well. Equation (9) below refers.

$$AD = 15.64 + 0.8417\ (ED) \qquad (9)$$
$$(70.)\quad (5.9) \qquad R^2 = 0.74,\ df.\ 12$$

(AD stands for Actual Dividends, ED is the Estimated Dividends, while the figures in the parenthesis are the t-values).

The high value of $R^2 = 0.74$ indicates that the association between the actual and the forecasted revenues is signficant. The significant co-efficient in the forecasted dividend which is less than unity is a clear sign of the existence of a tendency to overpredict, although when the errors are physically examined it is observed that a greater number of periods had underpredictions. An inspection of graph below - figure 8:1(f) shows also that more of the plotted points lie to the perfect forecast line, which is a sign of underprediction. The significantly large overprediction errors has certainly influenced the regression results to their favour.

TABLE 8:8

FORECAST ERRORS OF PARASTATAL DIVIDEND

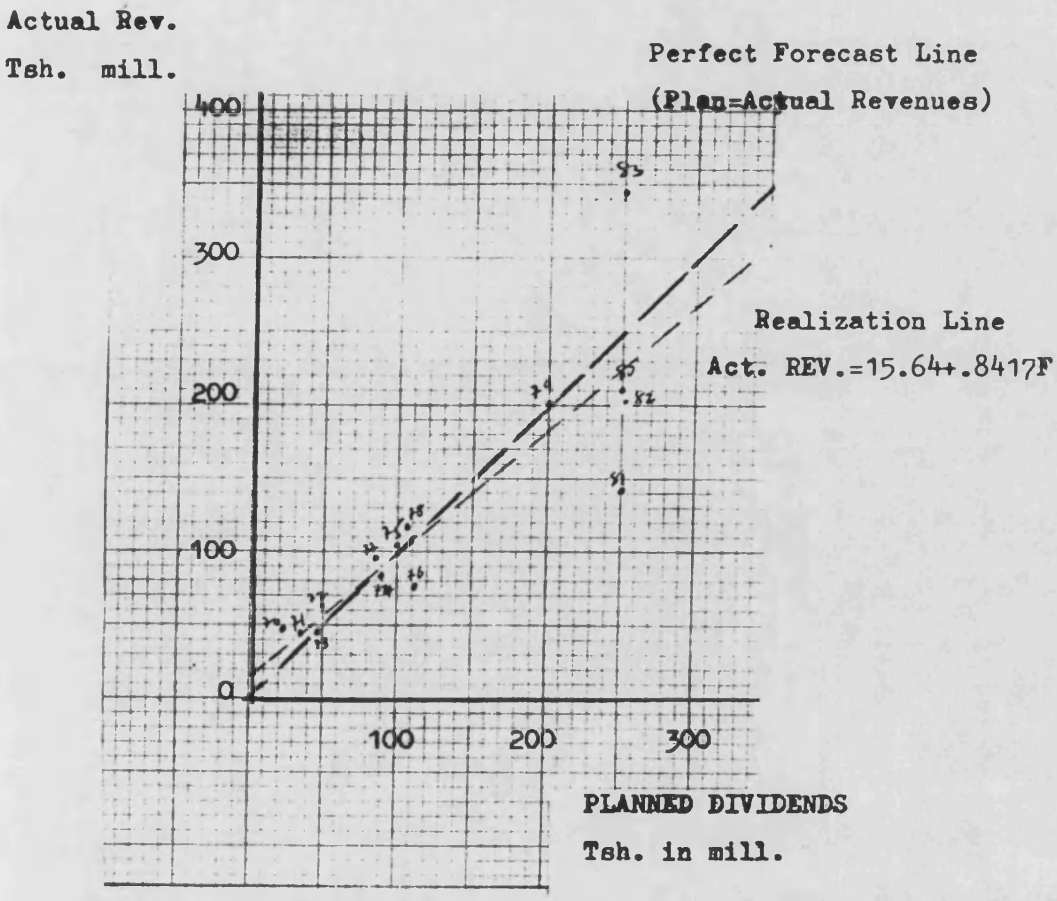
PERIOD	69/70	70/1	71/2	72/3	73/4	74/5	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
*ERROR%	104.2	13.5	28.6	0	-3.4	2.9	-32.1	11.7	6.5	0	-16	-41.8	-20	39.4

* Errors: is the ratio of difference between actual and predicted dividends to the predicted dividends.

Source: Computed from actual and estimated data on parastatal dividends appearing in Appendix 1.

FIGURE 8:1(f)

PARASTATAL DIVIDEND: FORECAST AND OUTTURN



III. CONSIDERATION AND EVALUATION OF FACTORS USED IN FORECASTING

The various sources of tax revenue will be discussed in detail in this section. The same classifications as used in Section II above will be used here.

Most of the factors which are supposed to be used for forecasting revenues were mentioned briefly in Chapter 7 above where some forecasting conceptual issues were dealt with in some detail. Though they will be mentioned once again here, however, more emphasis will be put on the evaluation part.

(i) Import Duties

The factors that are supposed to be used in forecasting custom duties are the expected foreign earnings and the likely quantum of imports as forecasted and co-ordinated by the Bank of Tanzania.[5]

Expected foreign earnings presumably refer to those earnings derived from export of goods and services. Moreover, if these expected foreign earnings data are to be used in the forecasting process, it means that such data has to be available to the Treasury (forecasters) probably by December, meaning six months in advance. Given that the country relies mainly on agricultural products for its foreign exchange earnings, the production of foreign earnings forecasts presupposes the existence of a good system of forecasting agricultural production at least a year in advance. One would really be naive to assume that such an efficient forecasting system exists in Tanzania. After all, weather alone in the past decade has been so devastating that it has been difficult to tell what is going to happen a few months later, let alone a year. On the other hand, agricultural commodity prices in the internal markets have never been very stable. This makes it difficult to predict what prices the next sold commodities will fetch.[6] The inquiry with the Commissioner of Customs and Sales Taxes about the use of such data showed that such forecasted foreign earnings are never used in the forecasting process. The Bank of Tanzania that is supposed to provide the data does not even include forecasts in its economic reports. [A perusal through the latter's 'Economic Bulletin' does not provide evidence of that.[6b]] Moreover, the economic reports are published quite late. For example, the report for 1982 came out in late 1984.

The second type of base used to forecast custom duties is the likely quantum of imports. Import duties have been levied on consumable goods mainly. A small amount is levied on intermediate goods, but capital goods were not charged the duty at all until 1979/80 when a rate of 10% was imposed.[7] A number of factors have made it difficult to obtain data on imports as well. Before the trade liberalization policy came into effect in 1984, all importers used to get import licences from the Bank of Tanzania (BoT). The moment the importer had received such licences, it was a sort of a guarantee or firm commitment by BoT to grant the foreign exchange required. This implies that import forecasts could be obtained in advance based on the total amount of the import licences. However, if we may invoke our knowledge of balance of payments crisis that the country has been going through in the last decade, (see Chapter 3) it is doubtful whether the Bank would issue all the licences required in a year some six months or more in advance. On inquiring, the office of the Commissioner of Customs and Sales Tax could not produce any evidence of information obtained from BoT about import forecasts, which were used in forecasting import duties. Nor was it possible to get the data from the BoT because all documents had been burnt in 1984 in a fire that destroyed the Bank's building.

The situation has even got more difficult with the introduction of 'trade liberalization'. Imports are no longer controlled by BoT through the import licence systems. Importers who do not have to use BoT foreign exchange make importation directly without getting a licence from the Bank.[7b]

My interview with the the office of the Commisioner of Customs and Sales Tax clearly revealed that such forecasted import data are not used in the generation of the forecasts. What takes place is that the taxes are predicted on the basis of prior year tax collection performance and the collection already made in the current period, and from it a guess is made of the likely import duties in the next period. The amount would be determined by adding or deducting a certain percentage, which is determined arbitrarily, on the expected import duties in the current period. There was no evidence of any quantitative methods being used to generate such estimates. No wonder then that the significant errors discussed in I(b) (i) above have resulted.

(ii) <u>The Export Duties</u>

Export duties are supposed to be forecasted using projections in exports.[8] The problems of forecasting exports are similar to those of forecasting foreign earnings which were discussed in III(i) above. Since the export duties would be earned on exports of agricultural produce mainly, a knowledge of exportable quantities and price of each product is essential. Given the difficulties of forecasting both quantities and prices of exports, the estimation of export-duties is done by taking into account the past trend, especially by considering

performance in the prior year and the period already covered in the current period. Some percentage is then added or deducted on the expected current period's taxes to give the next period's estimates. In discussing the problem with officers responsible, there was no evidence of quantitative methods having been put to use to generate the forecasts. The consequences of using arbitrary methods to forecast export duties are certainly reflected in the substantial errors observed in II(b)(ii) above.

(iii) Consumption and Excise Duties (Sales Tax)

The Sale Taxes are levied on both imported and locally manufactured goods. The predictions are supposed to be based on type and quantum of goods likely to be produced locally and imported, having regard to their rates.[9] The Commissioner for Custom and Sales Tax is responsible for generating the forecasts.

The prediction of sales taxes based on imports suffers the same problems as those discussed for import duties which also depend on imports. This issue will not be discussed further in this section.

On the other hand, for the forecaster to generate the projections based on data on locally produced goods, it implies that they have to collect data on production and sales plans from most of the important manufacturing units. In view of the fact that this information has to be with the Commissioner around December/January so as to enable him to prepare the projections in time, it also implies that the manufacturing units have to have their plans well prepared in advance. Surely one needs a very efficient management system to be able to provide such information that much in advance. First, most companies

have been experiencing serious production problems. As discussed in Chapter 3 above, most of the big manufacturing units which depend on imported raw materials and spare parts have had serious production disruptions associated with the balance of payments crisis. The latter circusmstances preclude the preparation of reliable plans. Secondly, other deficiencies in the management system, especially those of inadequacy in the accounting systems, also add to problems of preparing reliable plans in time. Problems of accounting in the case of parastatal organisations will be examined below when income and personal taxes prediction factors are discussed.

The current practice of forecasting sales taxes related to local production as revealed during the interviews is that most of the forecasting is done at district level. The Sales Tax officers in the districts are supposed to carry out a 'survey' in their districts of production and sales targets in most of the manufacturing units which produce in large quantities and which have their products heavily taxed as well. For example, some of the products which would have been covered in the survey would include beer, cigarettes, textiles, petrol etc. On the basis of the data collected through the survey, the district sales tax officers are supposed to prepare their projections of sales tax for their districts, which are then sent to the regional officers. The Regional Sales Tax officers are supposed to consolidate the estimates from the districts and forward them to the Head Office - the department of Customs and Sales Tax in the Ministry of Finance. Here they are consolidated further. Although the officials interviewed at the department of Customs and Sales Tax indicated that projections forwarded from district level are supported

by details of survey data used in the projections, however, they could not provide any evidence of the data. If such data is provided from the districts, then it is not kept in official office records or files. This implies that the Head Office does not use such data to check thoroughly the estimates received. And in view of some of the problems mentioned earlier which are faced by companies and which would preclude the preparation of the plans in time, it is quite likely that the unreliable 'survey' data collected are used to give an impression of what sales trends are likely to be. What also became apparent during the interview is that the burden of explanation of any difference between collections and estimates falls on the district officers. However, since the Sales Tax is one of the major sources of revenues, there is a continous review of performance trend to ensure that the targeted taxes are collected. The district sales tax officers are supposed to make a fresh assessment of expected companies' performances after six months which would lead to a review of the estimates. And it is after this middle-of-the-year review that it is decided whether to change the rates or to include new tax bases so as to ensure the initial projections are attained. The latter has certainly led to the success in prediction over this area. It was observed in II(b)(iii) that the prediction errors were very low in this category.

(iv) Income and Personal Taxes

The Commissioner for Income Tax is responsible for forecasting revenues from the above source. The basis of estimating the expected taxes is expected profits and the wage bill. Profits are for

estimating income tax, while wage bills are for estimating personal taxes.[11] In the case of profits, the income tax department sends out a questionnaire to all important companies requesting them to supply information regarding the estimated current year's profits. The response to this inquiry is generally poor. Why the poor response? First, as will be seen below in the case of parastatal companies, for most companies the accounts are in arrears for several years. In the absence of recent year's accounts, the companies have no basis for determining the expected profits in the current period. Moreover, the companies also know that such information - if provided, could be used to make a provisional assessment under the presumptive assessment provision. Secondly, most companies in the private sector, with an exception of a few subsidiaries of multinational companies operating there, are individual or family companies.[12] The tax officials admitted that the response from these private companies is very unsatisfactory, simply because those owning the companies would not like to disclose their position.[12b] And since the enquiry is not legally enforcible, there is not much the department can do.

In the case of parastatal companies, a look at their state of accounts for a few past years clearly shows why they cannot provide the information required by the Treasury.

TABLE 8:9

ACCOUNTS OF PARASTATAL COMPANIES IN TANZANIA

AUDITED BY TANZANIA AUDIT CORPORATION

YEAR	No. of Clients	A/Cs Submitted	A/Cs not Submitted		Obtained Clean Certificate		Qualified Certificates		No Opinion		Made Losses	
			No	%	No	%	No	%	No	%	No	%
1975/76	270	198	72	26	70	35	111	56	17	8	N/A	N/A
1976/77	300	212	56	18	76	35	113	53	21	9	75	35
1977/78	320	228	92	28	76	35.5	122	53.5	30	13.2	N/A	N/A
1978/79	329	347	100	30	76	30	138	55	33	13	81	32
1979/80	300	200	100	30	76	38	103	51.5	23	11.5	N/A	N/A

N/A = Not Available

Note: The accounts which were not submitted are in arrears for more than a year.

Source 1. The Role of public Sector in the Economic Development of Tanzania. Proceedings of a Workshop held in Arusha, Tanzania, on 27-29 September, 1983. Economic Research Bureau, Dar es Salaam, 1984. Table I p. 145

2. Ministry of Finance, 1981/82 Budget Speech, Dar es Salaam, p. 9.

Although some knowledge of expected profits is crucial in determining expected profit taxes, it was surprising to learn that the department itself has not made an attempt of assembling profit data that was with it. If expected profits data from companies was not forthcoming, for sure historical profit data lying with the department could provide the starting point for making the projections. What a senior official in the department commented about using the historical data is that the number of tax accounts (clients) was too big for the department to be able to extract the data. He indicated they had about 40,000 accounts. But why do they keep such accounts if they cannot use them? Presumably the information system is not geared towards the production of such reports.

As far as wage bills are concerned, my request to see the figures which have been used by the department to prepare the forecasts was not met either. I was referred back to the Bureau of Statistics. Such an attitude clearly suggests that the data were not available and were not used for forecasting. But would it be easy to get such data from the Bureau of Statistics? Under the current circumstances and practices it is impossible for the Bureau to be able to get planned data. How could the same companies which had failed to provide data to the income tax department manage to supply such data to the Bureau of Statistics? On the other hand, since companies and government departments file personal tax returns every month with names of employees, the income tax department could actually compile past wage bills from the same returns. Such historical data could be used to project expected wage bills which in turn would be used to project the personal taxes. This alternative is not exploited either. In view of

the restricted information flow in Tanzania coupled by lack of initiative on the part of the tax authority, the forecasting for this source of tax has ended up being an intuitive one. This is evidently clear from the significant errors which were observed in II(a) (iv) above. And even if the underprediction is deliberate, as argued above (p), it could be argued that this is a manipulation without control, although the underpredictions were successionally accomplished.

Other taxes such as the motor vehicle taxes, the dividends etc., have no specific factor bases which have been suggested for using in their projection. The manual recommends that annual trend for the past years could be used to project them.[13] This method could produce reliable results if used properly, especially if quantitative techniques are used. But the department does not employ any quantitative techniques in its forecasting. Judgemental methods appear to be used more, but the results do not reflect a good use of the methods either. The evidence for the poor judgement is the substantial errors observed in the case of the motor vehicle licence and taxes, miscellaneous taxes and licence, and the parastatal dividends in Section II above.

The lack of proper forecasting techniques should be seen as a system problem rather than a problem of an individual department or unit. There seems to be no appreciation for improvement by officers responsible, from the Treasury Principal Secretary down to the departmental heads. The forecasting errors which were observed in nearly all cases of tax sources have been going on for years, and yet the administration does not take any efforts to reform the system. Consequently forecasting continues to lose its meaning.

(vi) DIAGNOSIS OF DEVIATIONS AND RECOMMENDATION FOR IMPROVEMENT

The weaknesses which were pointed out in Section III above which resulted from the failure of the forecasters to use any identifiable method in generating the forecasts make it difficult for the forecast deviations to be diagnosed appropriately and be able to locate the major sources of the errors. If quantitative methods had been used, it would be possible to analyse the errors in relation to the variables involved and be able to spot out the causes of the errors. In situations where forecasting has been done systematically, it has been suggested by Mosley that forecasting errors could be caused by at least four factors.[14] These are:

(a) changes in the data for the past since the forecast was made,
(b) incorrect forecasts or assumptions for exogeneous variables,
(c) errors in the specification of the model
(d) errors of judgement made in 'imposing' coefficients in deviance of the evidence of the statistical relationship between past data.

However, since in the Tanzanian case the methods used in forecasting are fortuitous, it is not possible to analyse the errors using the above four factors. Due to this limitation, the analysis in this section will therefore confine itself to three major issues. First, some of the factors which were identified in III above under the major sources of revenue will be considered in terms of their stability vis-a-vis the stability of the revenue sources. To

accomplish the latter, instability indices will be constructed and used. Secondly, an attempt will be made to try to determine the relationship between the revenue sources and their taxable base. The purpose of carrying out the latter analysis is actually to try to find out whether there are any variables that could be used, in quite simple form, to derive more reliable estimates. Thirdly, the errors which were determined in Section II (b) above will be analysed further to determine the degree of predictability of the various sources which could help to sort out the predictables from the unpredictables; which would actually imply that the unpredictable sources should have more attention drawn to them. Since the sources of revenues are limited to Tanzania, it can not afford to lose any taxable base already identified.

(i) Instability Indices and Equation Relationships

The instability index used is the one used by Idachaba[15] which is the normalized co-efficient of variation defined as:

$$I = 100*S/R$$

where I is the index of instability, S is the standard error of estimate obtained from a linear regression of the variable concerned on time, and R is the mean revenue over the time period.

(a) Import Duties

In this category of revenue, the instability indices constructed were as appears in Table 8:10 below. From the latter, the imported intermediate goods factor appears to be the least unstable while the

imported consumption goods factor is the most unstable. The import duties are expected to be as stable as the base from which they are mainly derived. The category of imports which suffer high duties is the consumption goods type. The intermediate goods suffer lower rates. The high instability in import duties could therefore be related to the high instability in consumer goods' imports, although the more stable intermediate goods imports help to moderate fluctuations in import duties to some extent. Implied in this analysis is the fact that those factors which appear to be more stable, for example the intermediate goods factor and the imports factor, should be used to determine a simple model that could be used

TABLE 8:10: INDICES OF INSTABILITY FOR IMPORT DUTIES FACTORS

FACTOR	INDEX
Intermediate Goods - imports	10.5%
IMPORTS	12.0%
Exports	14.3%
Actual Import Duties	**25.3%**
Capital Goods - Imports	31.4%
Consumption Goods - Imports	31.7%

Source: Computed from actual data of variables listed for the period 1967/68-1982/83.

in the future to either predict or countercheck the accuracy of predictions made using other techniques.

The equations which have been developed with the above factors as the predictory variables, which cover the period 1967/68 to 1982/83, appear below as equations (8A) to (12), in order of strength based on R^2 .

Equation	R^2	
AI = 202.3 + 0.0519 (M) (3.5) (6.6)	0.76	(8)A
AI = 316 + 0.0992 (CA) (6.3) (5.5)	0.68	(9)A
AI = 240 + .116 (IN) (3.6) (5.1)	0.65	(10)
AI = 161.7 + 0.094 (X) (1.4) (3.5)	0.46	(11)
AI = 187.5 + 0.304 (CO) (11.4) (2.7)	0.36	(12)

AI = Import Duties; CA= Capital Goods Imports; IN = Intermediate Goods Imports; M = Total Imports, X = Exports; CO = Consumption Goods imports; the figures in parentheses are t-ratios.

The results indicated that total imports' association with the import duties is higher than in the rest of cases. The capital

goods have come second, although differing just slightly from intermediate goods (eq. 10). If we are to merge stability of variables with degree of association, then total imports and intermediate goods ought not be considered for use in predictions. I would not hesitate therefore, to recommend equation (8)A which uses imports as the independent variable.

(b Consumption and Excise Duties (Sales Tax)

The factors used in the instability analysis are selected locally manufactured products which normally carry high rates. The variables were taken in quantities (as reported) rather than in shillings. The instability indices appear in Table 8:11 below.

TABLE 8:11: INDICES OF INSTABILITY FOR SALES TAX VARIABLES

VARIABLE	INDEX (%)
IMPORTS (As in Table 8::10	12.0
CIGARETTES	13.8
CEMENT	17.8
BEER AND CHIBUKO	18.9
TEXTILES	19.6
PYRETHRUM PRODUCTS	30.4
SALES TAX	**31.8**
SISAL PRODUCTS	33.3
CONSUMPTION GOODS IMPORTS	31.7

Source: Computed from actual data of variables listed for the period 1967/68-1982/83 mainly from Economic Surveys.

Though we have reasonably low rates of instability for the major sources of the sales tax, the index for the sales tax itself is rather high. This could be a reflection of the complex nature of this tax which covers a wide range fo products with differing rates.

No equations have been constructed for the factors measured in quantities. However, manufacturing sector output has been used as one of the variables. Moreover, since sales tax is also levied on imports, the latter has been taken as an explanatory factor as well. The results of regression appear below as equation (13) to (16)

$$C = -1026.8 + 1.14\ (IN) \qquad R^2 = .88 \qquad 13$$
$$(-3.1)\quad (10.1)$$

$$C = -856 + 1.12\ (V) + 0.02965\ (M) \qquad R^2 = .87 \qquad 14$$
$$(-21)\quad (1.7)\quad (.1125)$$

$$C = -834.52 + 1.933\ (V) \qquad R^2 = .87 \qquad 15$$
$$(-2.5)\quad (9.54)$$

$$C = 1082.2 + 0.46\ (M) \qquad R^2 = .83 \qquad 16$$
$$(-2.7)\quad (8.5)$$

C = Sales Taxes; IN = Intermediate goods imports; V = industrial (manufacturing) output; M = imports; the figures in parentheses are t-values.

In all the equations the values of R^2 are high. In equation

(13) the regression co-efficient is very significant. Although sales taxes from intermediate goods would not be substantial as only low rates are charged, the latter comes out as a strong factor influencing the explained variable. Equation (14) which picks up both manufacturing output and imports, has the latter factor (imports) appearing insignificant. The t-value is quite low. Equation (15) which uses manufacturing output as the explanatory factor, is also strong with significant co-efficient. This is a better alternative to equation (14). Equation (16) which uses imports as the explanatory variable, emerges out as a strong one as well. In view of the fact that most of the sales tax comes from local manufacturing and imports, I would therefore recommend that equations (15) and (16) be used to countercheck the predicted Sales Tax estimates.

(c) Income and Personal Taxes

The factors used in the determination of instability indices are the national wage bills and the national net operating surplus. The indices appear on Table 8:12 below

TABLE 8:12. INDICES OF INSTABILITY FOR INCOME AND PERSONAL TAXES VARIABLES

FACTOR	INDEX (%)
WAGE BILLS	9.33
NET OPERATING SURPLUS	17.71
INCOME AND PERSONAL TAXES	25.7
PARASTATAL ORG. PROFITS	53.9

Source: Computed from actual data of variables for the period 1967/68 to 1981/82. Wage bills and Net operating surplus as reported in U.N.O. (various years). Year book of National Accounts, Vol. I., Also some data on Income and Personal Taxes and Parastatal organisations profits as reported in United Republic of Tanzania, (various years), Economic Surveys.

Some equations which were constructed to relate the tax category to the factors for the period 1967/68 to 1981/82 are as follow:

$$I = 188.5435 + 0.1085987\ (S) \qquad R^2 = 0.96 \quad (17)$$
$$(-1.96) \qquad (17.686)$$

$$I = -515.0676 + 0.2704\ (W) \qquad R^2 = o.965 \quad (18)$$
$$(-4.9) \qquad (19.07)$$

$$I = -399.90 + 0.04153(S) + 0.1685(W) \qquad R^2 = 0.969 \quad (19)$$
$$(-2.7) \qquad (1.11) \qquad (1.82)$$

(I is the actual Income and Personal Taxes; S is the net operating Surplus , while W is the Wage Bills. The figures in parentheses are the t-ratios).

The results of Table 8:12 above indicate that the latter category of tax is less stable than the bases from which it is derived. The regression results as presented in equations (17) to (19) reveal a strong association between the tax and the determinant bases. While the two bases (equations (17) and (18) appear significant in the individual analysis, however, when they are combined in equation (19), the operating surplus base emerge with a weak regression co-efficient (due to the low value of t-statistics). And, inspite of the strong fits, the regression coefficients appear to be very low while the constants are large negative values. The latter implies that it is only a small part of either the national bill or the profits that is mobilised as taxes. As will be suggested in (ii) below, that is an area that ought to receive greater administrative attention.

(d) Export Duties

In this case the exports instability index was computed and was found to be 14.2% while that for the export duties was 107.2%. Stability in exports has not helped to stabilize export duties. Moreover, the correlation between the export duties and the exports is very weak. From equation (20) below $R^2 = 0.26$

$$E = -113.5 + 0.083\ (X) \qquad R^2 = 0.26 \qquad (20)$$
$$(-0.7) \quad (2.2)$$

(E is the export duties; X is the exports; and the figures in parentheses are t-values).

The low relationship observed in (20) above implies that the exports as a whole cannot be used to project the export duties. The possible cause of this low relationship could be explained by the fact that in the more recent period, particularly after 1979/80, export duties have been levied on very few export products. The bulk of the exports, especially those of agricultural nature, have been exempted from tax (see Chapter 6 for further discussion). This has led to the situation that the share of export taxes to the total taxes is very insignificant.

(ii) Predictability Ranking

The average errors for each category of tax were used to determine the least predictable and the most predictable types of revenue . The ranking on the basis of error size appear on Table 8:13 below. The lower the average error, the more predictable the item is. Form the table is is clear that consumption and excise duties appear to be the most predictable source. However, the Income and Personal Taxes, which is the second most important source of recurrent revenue, has quite a high average error (30.1%). In addition to ranking according to the average error, the coefficients of variations of the errors were determined for each category of tax and then ranked in descending order. The data appears in Tables 8-14 (a) and (b) below. Whether the 'absolute' or 'true' mean is used, the results indicated that the type of taxes which had more stable errors were the income and personal taxes, the Vehicle Tax and licences, the import duties,

and consumption and excise duties. The other three, namely, Parastatal dividends, the export duties and miscellaneous taxes, were the most unstable. In view of the results in Tables 8-13 and 8-14, the Taxes which should be emphasized are those with low average errors but also with stable errors. The income and personal taxes could be a cause of conern because of its high error. While we cannot recommend that this important source should receive less emphasis, however, it could be recommended that the department of income tax should be strengthened further. But for the other sources which look less predictable, such as Export duties and the miscellaneous taxes and licences (Table 8-13), the government could disband the Sections involved, particularly where the government's administrative costs are higher than the collections from them. In any case, where some administrative efficiency can be increased, it is better for the less predictable sources to be retained.

TABLE 8:13: ERRORS RANKING

TAX SOURCE	AVERAGE ERROR	MAXIMUM ERROR
1.CONSUMPTION AND EXCISE DUTIES	8.3%	34.4%
2.MOTOR VEHICLE LICENCE AND TAX	17.4	61.2
3.IMPORT DUTIES	19.6	58.9
4.PARASTATAL ORG. DIVIDENDS	21.5	81.1
5.INCOME AND PERSONAL TAXES	30.1	134.7
6.EXPORT DUTIES	36.6	324.8
7.MISCELLANEOUS TAXES AND LICENCES	94.6	666.0

Note: 1.The average error is determined by taking the mean absolute error ($\sum$ (Actual Error-Estimate Error) divided by the mean estimate value ($\sum$ (estimate))

2.The maximum error is determined by taking the maximum absolute error divided by the mean estimate value.

Source: Computed from actual (data appearing in Appendix 1) and estimates data for the various categories for the period 1967/68 to 1982/83.

TABLE 8-14(a)

RANKING OF TAX SOURCES USING THE INDEX

OF CO-EFFICIENT OF VARIATION OF ERRORS

TYPE OF TAX	COEFFICIENT OF VARIATION (Absolute Mean used) ^{t}
1.Income and Personal taxes	131.9%
2.Vehicle Tax and Licences	134.8
3.Import Duties	139.6
4.Consumption and Excise Duties	141.7
5.Parastatal Dividend	159.7
6.Export Duties	232.1
7.Miscellaneous Taxes	234.3

TABLE 8:14(b)

RANKING OF TAX SOURCE USING THE INDEX OF COEFFICIENT OF VATIATION OF ERRORS.

TYPE OF TAX	COEFFICIENT OF VARIATION (True Mean used)[t]
1.Income and Personal taxes	133.9%
2.Consumption and Excise Duties	267.2
3.Vehicle Licences	298.5
4.Import Duties	337.9
5.Export Duties	490.1
6.Parastatal Dividend	2379.0
7.Miscellaneous Taxes	32577.9

t = the "true" mean takes account of arithmetic sign of the error, the "absolute" mean does not

Source: Computed from error data of the various tax sources.

What other options are available for reducing the errors? Several methods have been suggested.[16] The first method of reducing the forecast errors is for the Treasury to accept the errors which arise from existing forecasting systems as a "structural datum" and attempt to remove them by applying realization functions to the forecasts generated through the present methods of forecasting. The realization function are those appearing as equations (1), (2), (3), (4), (5), (6), (7), (8) and (9) above. The adjusted raw forecasts give lower average errors in most cases compared to errors of the uncorrected forecasts. The results are presented on Table 8:15(a) and (b) below.

TABLE 8:15 (a)

COMPARISON OF ERRORS COMPUTED USING THE UNCORRECTED ESTIMATES AND THE CORRECTED ESTIMATES

	CATEGORY OF TAX REVENUE	AVERAGE ERRORS BASED ON UNCORRECTED ESTIMATES	AVERAGE ERRORS BASED ON CORRECTED ESTIMATES
1.	TOTAL CURRENT REVENUE	7.7%	8.0%
2.	IMPORT DUTIES	19.6	19.0
3.	EXPORT DUTIES	36.6	38.0
4.	CONSUMPTION AND EXCISE DUTIES	8.3	7.0
5.	INCOME AND PERSONAL TAXES	30.1	11.0
6.	MOTOR VEHICLE LICENCE AND TAXES	17.4	15.0
7.	MISCELLANEOUS TAXES AND LICENCES	94.9	70.4
8.	PARASTATAL DIVIDEND	21.5	19.9

Source: Computed from error data of the various sources.

TABLE 8:15 (b)

COMPARISON OF ERRORS COMPUTED USING THE UNCORRECTED ESTIMATES AND THE CORRECTED ESTIMATES

CATEGORY OF TAX REVENUE	MAXIMUM ERRORS BASED ON UNCORRECTED ESTIMATES	MAXIMUM ERRORS BASED ON CORRECTED ESTIMATES
1.TOTAL RECURRENT REVENUE	65.2%	44%
2.IMPORT DUTIES	58.9	63
3.EXPORT DUTIES	324.8	261
4.CONSUMPTION AND EXCISE DUTIES	34.4	32
5.INCOME AND PERSONAL TAXES	134.7	56
6.MOTOR VEHICLE LICENCE AND TAXES	61.2	50.0
7.MISCELLANEOUS TAXES AND LICENCES	666.0	503.0
8.PARASTATAL DIVIDEND	81.1	110.0

Source: Computed from error data of the various sources.

Another method of reducing the errors is for the Treasury to adopt a system of preparing budgets more frequently than is done now. This could be done by having supplementary estimates every three months, a move that would place the Treasury in a better position to assess the economic environment that underlines the predictions.

SUMMARY

The Chapter examined in detail the process of forecasting revenues in Tanzania. In analysing the actual revenues in relation to the forecasted revenues, the following observations were made.

(i)The total tax revenue had a bias towards underprediction with modest yearly variations. These variations did not exhibit any growth or decline pattern.

(ii)The individual tax sources exhibited different magnitures of forecast errors. The consumption and excise duty tax had the minimal errors with an average of 8.3%. This was a source of encouragement because this tax now contributes about 40% of the tax revenues. The Income and Personal taxes, which is the second most important source of revenue (contributing 28% of tax revenues), was a source of disappointment. The average forecasting errors amounted to 30%. The other tax sources were also a source of concern for they emerged with quite high errors. The case of miscellaneous taxes and licences appeared to be much worse than the rest of the items, due to its high average error of about 95%.

(iii)In the case of Income and Personal Taxes, there was an all-period underestimation which led to some suspicion that this was done deliberately presumably with the intention of using the extra resources as a cushion against uncertainty due from the other less predictable tax sources.

In examining the various variables which were supposed to be used in forecasting the various tax items, it became apparent that it was difficult for the authorities to have the data on time. The three

main factors considered to be contributing to delays in getting the prediction variables data include:

(i) the restricted information flow system in Tanzania.

(ii) economic imbalances in all sectors that created uncertainty which made it difficult to make forecasts of the predictor variables.

(iii) Lack of initiative and effort on the part of tax administrators to retrieve and use historical data obtainable in the tax departments.

The failure to have some access to the data for the predictor variables led to the use of judgemental techniques in forecasting. The latter situation had a limitation on the amount of quantitative anlaysis that could be done on the forecast errors observed.

Some other vital tests performed involved the derivation of instability indices of the various variables related to or forming tax bases. The indices were used to check how instability in a tax item was related to instability in its predictor variable. The most stable variables were then used to develop simple regression models which could be used for future forecasting. For the three major tax items, the following variables were recommended.

Consumption and Excise Duty .....Industrial Outputs or Imports

Income and Personal Taxes .....Wage Bills and National operating surplus

Import Duties .....Imports.

As regards ways of reducing the forecast errors, it was recommended that the Treasury should emphasize those taxes which emerged with small errors, with the implication that the less predictable taxes should be disbanded altogether. Secondly, the Treasury could use the realization functions to correct the raw forecasts generated through the present system. And thirdly, the government should have more regular supplementary estimates.

NOTES

1.Caiden, N. and Wildavsky, A. (1974), Planning and Budgeting in Poor Countries, New York, John Wiley & Sons, pp 68-69

2.The Share of consumption and excise duty to total recurrent revenue computed from data appearing in Appendix grew from 11% to 1967/68 to 41% in 1982/83.

3.The share of income and personal taxes to total revenue computed from data in Appendix grew from 19% in 1967/68 to 28% in 1982/83.

5.United Republic of Tanzania. (1984). Manual of the Budget Process in Tanzania. p.21 Dar es Salaam: Treasury.

6.Prices of agricultural commodiites sold to World Markets by Tanzania were discussed and plotted on graph in Chapter 3 and the observations made were that most of the products were subject to extraordinarily erratic movements, although the prices had experienced an upward movement over that period.

6B.see the Bank of Tanzania's 'Economic Report' (1982). There is no evidence of forecasts. Moreover, it is published a year or more late.

7.Ministry of Finance, Budget Speech -1979/80, Dar-es-Salaam p.28

7B.Ministry of Planning and Economic Affairs, Economic Survey (Swahili) page 106. It is clearly mentioned that import licences were not required for imports not requiring foreign exchange from the banks.

8.Ministry of Finance and Ministry of Planning and Economic Affairs, op cit. p 22

9.ibid. page 21

11.ibid. page 21

12.Note that in Tanzania there is no Stock Exchange or Share Market for selling company shares.

12B.This observation is quite in agreement with an earlier theoretical observation noted in Chapter 6

13.Ministry of Finance, et. al. op cit. page 22

14.Mosley, P. "When is a Policy Instrument not an Instrument"? Fiscal Marksmanship in Britain 1951-84" Journal of Public Policy. Volume 5, No. 1 (1985)

15.Idachaba, F.S. "Revenue Stability in Developing Countries. Ghana". Public Finance. Volume 30, No. 7, (1975) page 99

16.See for example the recommendation by Mosley (op cit. page 78).

CHAPTER 9

FOREIGN GRANTS AND LOANS FORECASTING - AN EMPIRICAL INVESTIGATION

I INTRODUCTION

The vital role of foreign inflows in a developing country's developmental effort need not be overemphasized. Tanzania's public investment, especially in the last decade, has depended considerably on foreign grants and loans. The ratio of foreign inflows to total development budget has remained above 40%.[1] Thus, it can be argued that the macroeconomic contributions of foreign inflows into the economy of a developing country which is short of both skilled human and other capital resources will continue to override the disadvantages likely to arise as a result of relying on foreign inflows.[2] Dependency on foreign resources, whether aid or resources obtained from private lending sources, can obviously exacerbate economic problems if used unwisely. As pointed out by World Bank, if aid is not coordinated and managed properly, the desired impact would be compromised, by way of heavy indebtness and distortions of national objectives.[3] Those countries which have put foreign resources into well planned investments supported by good policy framework and strong executing institutions have in recent decades achieved quite remarkable economic development.[4] This implies that Tanzania's economy still stands a good chance of benefiting from the foreign-resource inflows provided that there is proper coordination and management for such external resources which should be invested under

conducive economic and political policies.

Proper management starts at the planning level of which budgeting or forecasting is part and parcel. This chapter presents an evaluation of forecasting of foreign inflows in the Tanzanian context. Since the focus of the study is to identify the extent to which inefficiencies in budgeting (especially forecasting) have contributed to the current economic problems, the hypothetical framework of analysis is contructed and states that: inability to control the variables which determine the level of foreign loans and grants (inflows) contributes towards the uncertainty that has been a characteristic in the actual inflows.

Finally, the chapter is organized as follows: In Section II the forecasts are anlaysed in relation to the outturns. The analysis will consider both aggregated and disaggregated loans and grants. In Section III the deviations are diagnosed in relation to factors used in the forecasting process. In section IV some attention is paid to the performance of a few selected donors, as well as a few sectors, in disbursing funds. In section V the scope for reducing forecasting discrepancies is considered. Finally there will be a summary.

II ESTIMATES IN RELATION TO OUTTURNS - A SCIENTIFIC MEASUREMENT OF VARIATIONS

The purpose of this section is to explore the extent of variations of actual outturns from the forecasts. The external resources under consideration are those already agreed upon between Tanzanian Government and the donors, although the funds might still be in the possession of the latter. Therefore, our forecasts analysis relates more to an internal process of allocating the funds in a particular period. My investigation will therefore be one of looking at the problem of either under- or over-utilization. Surely this is a problem to be associated more with the spending agencies and departments, although the Treasury and the Ministry of Planning and Economic Affairs have to bear the ultimate responsibility for any inefficiencies occurring in the allocation and utilization of government resources. The analysis will consider the grants and loans on a combined basis and then on a separately basis. Although the period for analysis has been 1967/68 to 1982/83, due to lack of disaggregated data in the most recent years (1980/81 - 1982/83), the separate analysis for loans and grants is based on the period 1967/68 - 1979/80.

(a) Total external loans/grants: Forecasts in relation to outturns

In general, forecasting of external finances in Tanzania appears to be saddled with problems. In most cases the estimates are never realized. A comparison of the forecasted external finances with the actual external finance reveals that there has been some under-

realization in most of the periods. In thirteen periods out of the sixteen years under study, the actual receipts fell short of the forecasted amounts. The absolute deviations between the forecasted revenues and actual collections appear in Table 9:1 below.

An examination of the results of a regression between the actual values and the forecasted values, appearing below as equation (1), reveals that the level of discrepancy between the two variables is high. Ideally, a perfect forecasting would require that the constant should be zero, and the coefficient on the forecast variable should be unity.[5]

$$A_f = \underset{(2.5)}{266.4} + \underset{(9.4)}{0.4265}(E_f) \qquad R^2 = 0.87 \qquad (1)$$

(Af stands for Actual external revenue, Ef is the forecasted external revenue while the values in parenthesis are t-ratios).

In equation (1) above, both the constant and the coefficient are significant as confirmed by the strong values of "t" taken at the 5% level of significance. The high value of constant points to some tendency for the forecasts to be quite different from actual values. Equally, the low value of coefficient which is equal to 0.4265, is quite less than unity, and it implies that the forecasts are far from being perfect.

TABLE 9: 1: FORECASTING ERRORS IN TOTAL EXTERNAL FINANCING

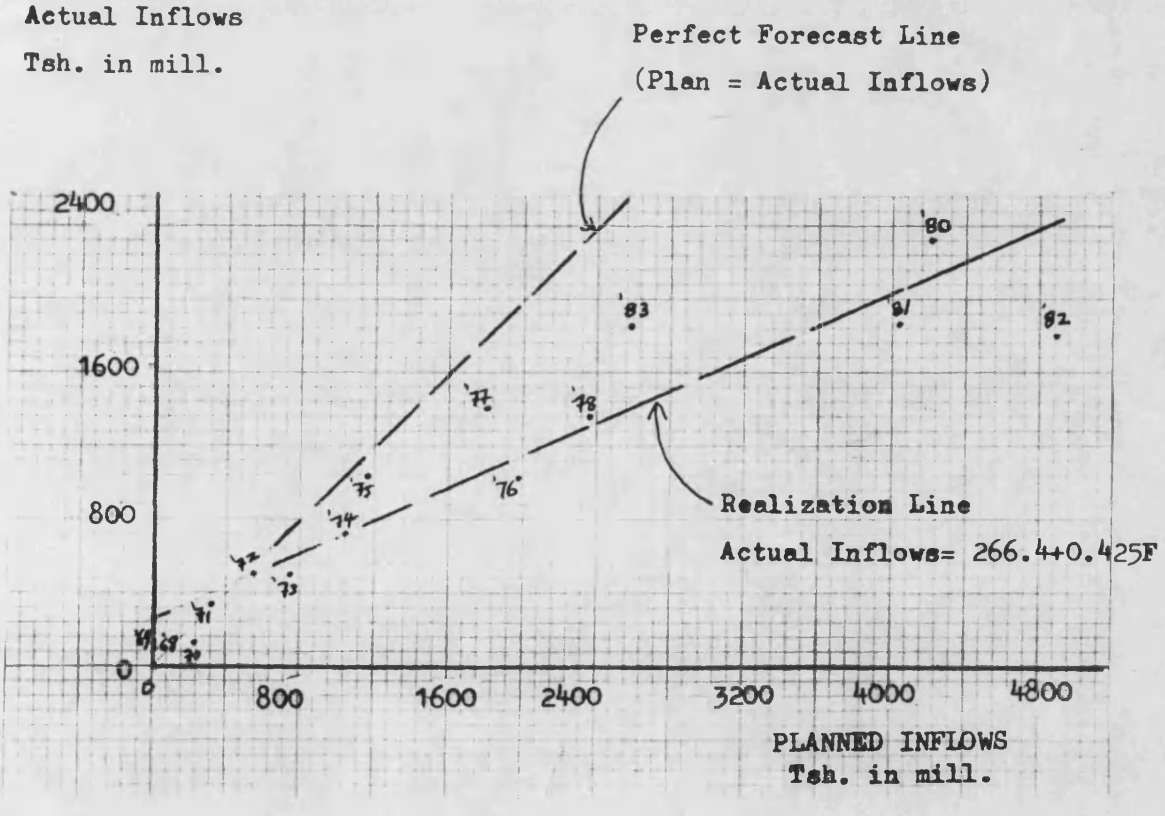
PERIOD	1967/68	68/69	69/70	70/71	71/72	72/73	73/74	74/75	75/76	76/77	77/78	78/79	79/80	80/81	81/82	82/83
ERROR(%)	2670	1866	-39	4	-6	-31	-35	-13	-48	-23	-42	-37	-45	-54	-64	-29

Note: The error is the percentage ratio of difference between the actual and estimated external finances to the estimated external finances.

Sources: Computed from data appearing in Appendix 9A-1

A graphical presentation of the realisation equation in relation to the perfect forecast line, (figure 9:1 below) confirms further that there has been a tendency to overpredict, and with passage of time, the imperfection in forecasting has been increasing as is revealed by the growing divergence between the perfect forecast line and the realisation line.

FIGURE 9:1. FORECASTS AND OUTTURN SCATTERPLOT.



F - FORECASTED EXTERNAL INFLOWS.

An examination of the pattern of errors indicate that there has been a tendency for them to increase with time. This is clear from the trend line (equation (2) below) developed. Considering the t-values at the 5% level of significance, the constant and the coefficient are significant.

$$Ef = -2465.9 + 156.2(T) \quad R^2 = 0.91 \qquad (2)$$
$$\qquad\quad (-7.9) \quad (11.2)$$

(Ef is the forecast errors, and T is the Trend)

The high negative value of constant points to the dominance of negative values, in other words, the over predictions. The positive sign on the coefficient on time points to the tendency of the errors to increase with time.

(b) Grants: Forecasts in relation to out-turns

An analysis of the grants (the actual and forecasted grants revenue) does not present a different pattern from that observed in the case of the combined external finances discussed above. The tendency in forecasting is one of over-predictions. In nearly all the periods the under-realization was of a great magnitude. The errors appearing in Table 9:2 below clearly show that the under-realization was significant, with errors ranging between 9% and 99%.

TABLE 9: 2: FORECASTING ERRORS IN GRANTS

PERIOD	1967/68	68/69	69/70	70/71	71/72	72/73	73/74	74/75	75/76	76/77	77/78	78/79	79/80
ERROR%	-18	-99	-72	-96	-46	-44	-42	-8	-35	-25	-42	-46	9

Source: Computed from data appearing in Appendix 9A-2

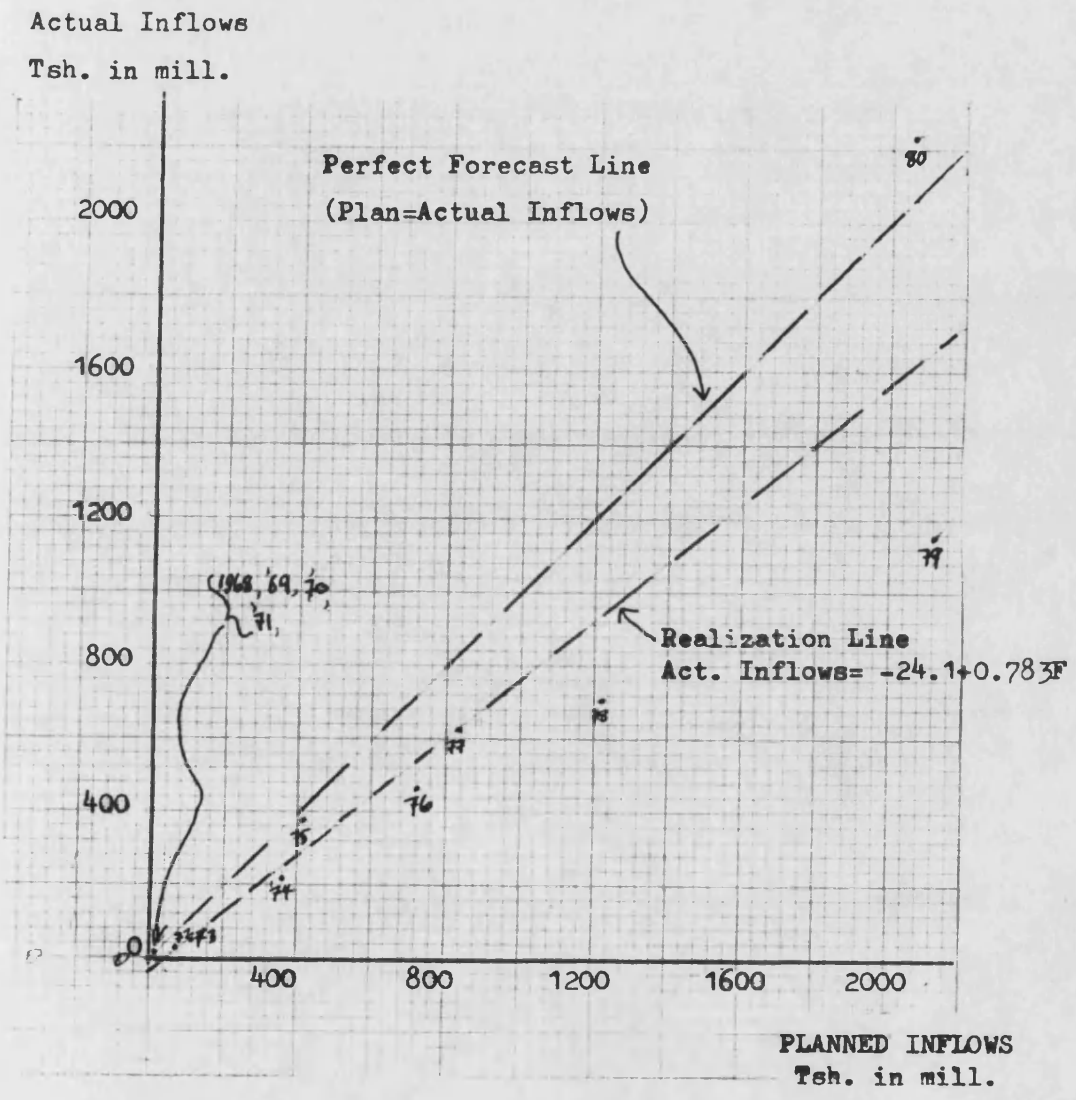
When the actual receipts and the forecasted receipts are regressed on each other, the results obtained, as depicted in equation (3) below, confirm that there has been underrealization. Though the constant value is insignificant, due to the low value of t-ratio, however, its negative sign indicates the existence of some systematic tendency for the forecasts to be too high. The coefficient which is significant - in view of the high value of t-ratio, is, however, far less than unity, which is an indication of imperfect forecasting, leaning towards overprediction.

$$Ag = -24.09 + 0.78314(Eg) \quad R^2 = 0.86 \qquad (3)$$
$$(-0.3) \quad (8.14)$$

(Ag is the actual grant receipts, while Eg is the forecast grant revenues. The figures in parentheses are the t-ratios)

A graphical presentation (figure 9:2 below) also confirms that there has been a tendency to over-predict. The plotted regression line lies to the right of the perfect line, and as time passes, the two lines appear to be moving further apart from each other. This divergence stands for the widening discrepancies between the forecasts and the actual outturns.

FIGURE 9:2. FORECASTS AND OUTTURN SCATTER PLOT.



(c) Loans - Forecasts in relation to outturns

Forecasting of loans has remained equally imperfect as in the case of grants. The general tendency is for overprediction. The forecasting errors have remained significant, ranging from 10% to 65%. The errors appear in Table 9:3 below.

TABLE 9: 3: FORECASTING LOAN ERRORS

PERIOD	1967/68	68/69	69/70	70/71	71/72	72/73	73/74	74/75	75/76	76/77	77/78	78/79	79/80
ERROR(%)	∞	∞	-47	-15	-26	-29	-31	-16	-55	-21	-31	-65	-10

Source: Computed from data appearing in appendix 9A-3

When the forecasts are analysed in relation to outturns using regression analysis, we observe that the value of the coefficient, which is equal to 0.56, is about half of unity, which implies that the forecasts are far from being perfect, and the bias is towards over-prediction. On the other hand, the existence of a rather high value of constant, (though insignificant due to the very low value of t-ratio), implies further that the actual realizations vary significantly from the forecasts. Equation (4) below presents the perimeters discussed in the above paragraph.

$$Al = 98.13 + 0.56(El) \qquad R^2 = 0.70 \qquad (4)$$
$$(0.89) \quad (5.0)$$

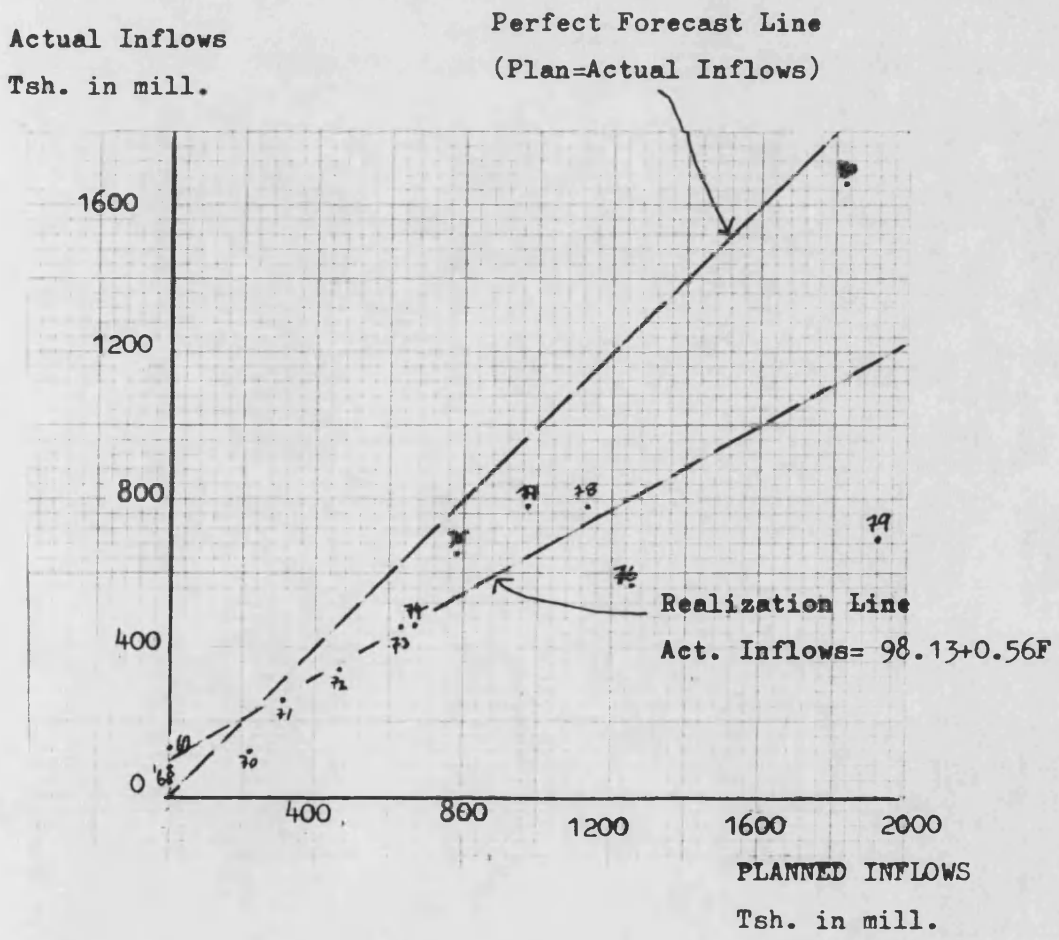
(Al is the actual loans (realized), El is the forecasted loans. The figures in parentheses are the t-values which are tested at the 5% level of significance).

Finally, the graphical presentation of the above equation line in relation to the perfect forecast line confirms further that in most of the periods, the tendency has been one of overprediction. It is only in the first couple of years, 1967/88 and 1968/69 that there was under-prediction. With an exception of the latter two periods, the scatter points for the rest of the study period lie to the right of the perfect forecasting line, a phenomenon pointing to overpredictions. The graphs and the scatter plots appear in figure 9:3 below.

In short, the forecasting of external revenues point to a

tendency of overpredicting. The errors appear to be significant, and they have been growing in absolute terms as the forecasts themselves have been growing. In the next section those variables which have been used in determining the forecasts will be analysed.

FIGURE 9:3. FORECASTS AND OUTTURN SCATTER PLOT.



F - FORECASTED INFLOWS.

III DIAGNOSIS OF DEVIATIONS IN RELATION TO FACTORS USED IN FORECASTING

We have already seen in section II above that there were significant variations between the forecasts and outturns of the external revenues. Such variations reflected overpredictions. But before we explore the causes for the overpredictions, it might be worthwhile to raise and clear a few pertinent issues related to the nature of the forecasts, and secondly, to highlight the qualitative and quantitative factors that are taken into consideration in generating the forecasts.

As regards the nature of the forecasts, it is in order to point out that they do not reflect the same qualities of 'unknown' or 'expectations' as in the case of domestic revenues. They in fact reflect or represent firm committments of financial resources expected to be expended in the respective fiscal year. This implies that the variations observed in section II above ought to be perceived as under-or over-utilizations rather than under-or-over-predictions. Why has it not been possible for the government to use true predictions (in the sense of the revenues expected to be negotiated and collected) in the annual budget?

To begin with, the use of external resources is, to a large extent, for the capital expenditure part of the government budget. Recurrent expenditure part of the budget is not financed, in practice, through externally mobilized financial resources.[6] Given that the capital budget is for projects (investments) mainly, the implications are that the sources of funding must be certain before implementation

can take place. Unlike local resources which can be collected in a matter of weeks or months, external funds require negotiations with potential donors, which could take a long time to finalize. The latter circumstances are due to the fact that Tanzania has had no strong influence or control over the donors' policy decisions about aid giving. Moreover, considering the fact that, until late 1970s the donors preferred to give the aid through the project mode,[7] which implied that they had to see appraised projects, and sometimes carried out their own re-appraisal, it becomes quite apparent as to why the aid recipient has to work on what has already been negotiated and agreed upon rather than on mere expectations. Thus, faced with the problem of timing and weak bargaining power, one has to resort to working on commitments. However, Tanzania could exert more influence on the donors by developing its own firm aid policies which, for example, could put more emphasis on those donors who are willing to accomodate its acceptance conditions, especially over the type and form of aid that is given, its timing and also over the mode of disbursing the funds. The latter might sound an unpractical proposition for a country that is severely constrained financially, but it could really be worthwhile, if need be to restructure and cut down on the volume of investments and accept less donations and loans which are more attuned to the country's real needs, and which give better value to the country. It is stressed by World Bank (and also Cassen) that if external assistance is to be useful to the recipients, then the donors must change their current policies over aid giving. However, for such changes to take place, the recipients have to initiate policy as well over aid and economic programmes etc.[8] It

can be argued that the onus to push for the aid policy reforms on the part of donors lies mainly with the recipients. Tanzania could learn a lot from the case of India (Cassen 1986: pp.88-89) where recipient control is manifest.

The next issue to be examined briefly is that of factors considered by Tanzania in projecting external revenues.

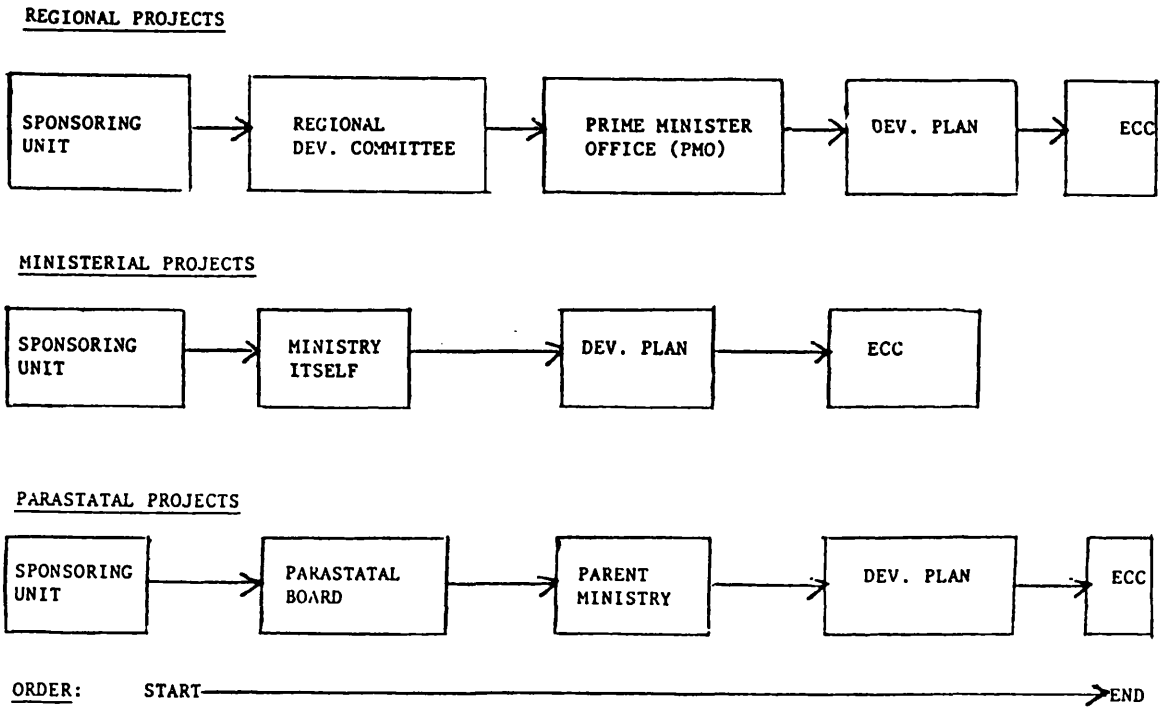
Apparently, there appear to be no concrete factors used in the forecasting of external (aid) revenues. The type of factors which one could at least expect to see being used in determining the level of external financing could be, for example, the past or planned level of National output (GNP), past levels of National Investments (Capital Formation), past or expected levels of exports and imports, past levels of aid disbursed, etc. But what one sees is quite a different approach, which actually does not relate the external financing to the country's potential capacity to either absorb it or service it. This general weakness is apparently a manifestation of the institutional weaknesses existing over development planning whereby investment levels are not set in relation to any concrete national economic measures. The latter is discussed further in chapter 11 below. Thus, the main approach of determining the expected level of external funding is one whereby a list of projects is prepared which is then used to approach potential donors who in turn make a commitment to provide the finance. The precise procedure followed is as presented below.

STEP 1 The project is identified and approval to continue with its feasibility study is secured from Dev-Plan by the

implementing institution.

STEP 2 Feasibility study is done by the implementing institution. In this case, external technical assistance to assist in the preparation can be sought from Treasury (Division of External Finance).

STEP 3 The project (with feasibility study) is further presented to appropriate authorities for approval, which should include Dev- Plan and Economic Committee of Cabinet (ECC). The order of flow for the various channels appears below:



STEP 4 The appraised project is presented to potential donor for obtaining external finance by Treasury. The Treasury is expected to know the likely possible source of external finance.

STEP 5 The identified donor undertakes a re-appraisal of the project before approval and sponsorship offer is granted.

STEP 6 A formal agreement of project execution is signed between Tanzania and the Donor country or Institution.

STEP 7 Finally, the project is included in the annual plan(s).

Such committed amounts in fact become the 'forecasts' for the budget year. The process of spotting the potential donors depends on two main factors. The first factor is the country's long-term programme agreements with certain donors. Such agreements indicate the extent to which the donor is willing to assist in the development effort and they normally indicate the amount they can contribute on a multi-period basis. For example, countries such as Norway, Sweden, Denmark, Finland, Canada, and Germany, have adopted forward aid undertaking policy for all its recipients including Tanzania.[9] In Tanzania, consultations are held in March/April each year to fix the assistance content of the next two calendar years, and these figures normally form the basis for necessary project preparation.[10] Secondly, a donor's indicated preference or interest act as a guide in identifying potential donor. The interest in this case could be in

the form of involvement in the preparatory stage of the project etc.

In view of the above exposition, it is indeed clear that the estimates which are shown in the budget book are not, technically speaking, unknown forecasts of external finances which the government expects to secure during the year. They are infact estimates of expected disbursements in the period.

This is even to dismiss those critics who have argued that Tanzania's forecasts of foreign aid are unrealistically optimistic, and budgeted foreign aid appears to be based on the residual needed to meet hopes for expenditure levels, with the residual likely to be double the historical trend for aid flows.[11] There in fact appears to be an apparent confusion between aid predictability and aid absorption capacity. For example, in discussing aid modality in Tanzania, Mushi's focus was on the unpredictability of aid but his analysis and explanations are those for underutilization of aid.[12]

To ascertain the extent to which the annual development budget is very specific and certain in as far as foreign financing is concerned, an examination of the 1977/78 Annual Plan (DevPlan: 1977) indicates for each single project the share of foreign funds, its nature (grant/loan) and the donor. And as has already been said above, the amount indicated is firmly committed by the donor.

We can now examine the possible causes of the variations observed in section II above. The "under-predictions" or rather under-utilization can be attributed to a number of factors, four of which appear to be most important. These are:-

(i) Inadequate counterpart resources (Funds and manpower).

(ii) Problems related to balance of payments crisis (applies mainly to projects with large foreign exchange content).

(iii) Inavailability of local projects inputs in required quantities.

(iv) Aid procedures being too complicated for Tanzania's administrative capacity.

(v) Policies regarding aid composition emphasised project aid which led to inflexbilities in aid utilization.

(vi) Underspending of committed external finance caused by non-fulfilment by Tanzanian Government of policy conditions imposed by donor.

The above factors are discussed in detail below:

(I) Inadequate counterpart resources (funds and manpower)

Most donors who support development projects under the project aid mode, have a funds (costs) contribution policy which requires the recipient to contribute a certain minimum percentage towards local costs. Local costs generally include costs for factor (labour, materials) payments not requiring foreign exchange, together with any local taxes which might be levied on any imported products, wages and salaries etc. The insistence on local contribution underlines the general belief that external finance ought to be used only as supplement rather than as substitute. As pointed out by World Bank; foreign capital allows a country to invest more than it could if it used only national savings.[13] The latter implies that the foreign inflows should be a motivation for the country to save and invest more.[14]

The share of local costs that the recipient is expected to contribute varies enormously with different donors. Some studies done on Tanzania in this respect have attempted to classify the major donors according to four categories of contributing policies.[15]

Policy Category.	Country
(1) Can meet all local costs if necessary	China, EDF under Lome 2, The Netherlands
(2) Can only meet a specified part	U.K. (can meet 50% of some local costs World Bank (80% of project cost contributed externally) USAID (75% of project contributed externally) USAID (SH.20,000 is to be put in a trust by Tanzania for each technician aid-technical Assistance.
(3) No ceiling or guidelines on local cost financing but flexible	DANIDA, NORAD, SIDA, CIDA, WEST GERMAN
(4) Inflexible on local cost financing	France

A priori, it could be argued that when the government accepts foreign assistance it implicitly demonstrates that it can mobilize enough savings to meet her share of the local cost. But how is it then that the counterpart funds is a burden that prevents full utilization of the external funds? Two factors can help to explain this. First, there is under- costing of projects at time of preparing the

feasibility study. Secondly, project designs often do not anticipate actual inflation rates. Inflation related costs arise due to time-lag between when the projects feasibility study is done and when actual implementation takes place. For a country where the inflation rate has been sky-rocketing,[16] project input costs are likely to change significantly as well. If allocation of funds during budgeting is based on the original costing, obviously implementation problems are bound to emerge. The situation is made worse if the response to accept and act on the additional local costs is slow. My interviews with officers in the Capital Budgeting and Programming Division of DevPlan clearly indicated that there was a problem of meeting in time (by DevPlan), the unanticipated increased local costs. On the other hand, if they are to be absorbed by donors then there will be new negotiations which take time. Increased costs have surfaced clearly in reports prepared which compare project physical (performance) completion with project financial (performance) completion. The higher level of completion on financial performance compared to the physical performance in nearly all sectors must surely be explained partly by cost underprovision. It is only after the project has reached 100% physical completion that cost overuns which are over 25% per project,[17] are known. Table 9:4 below indicates the divergence between physical and financial performance for 1974/75 and 1979/80 when detailed project reports were compiled.

Table 9:4 DEVELOPMENT PLAN FULFILLMENT

	1974/75		1979/80	
	Physical	Financial	Physical	Financial
MINISTRIES	41.05%	81.2%	35.6%	62.2%
PARASTATALS	41.7	75.6	35.8	50.8
REGIONS	57.8	97.1	46.1	67.1
TOTAL	51.4	80.1	40.5	56.3

Source; Adapted from A Performance Review of Tanzania's Annual Plan for 1979/80, table 3 p6. Dev. Plan.

To cite an example of how increased costs due to underprovision and inflation could pose a serious problem, in one road construction project, (Makambako to Songea) which was undertaken in two phases (Phase I - Makabako-Wino & Phase II - Wino-Songea), in the 1st Phase, costs increase due to inflation amounted to Ts.153 mill. (58.8% of original estimate). Since local resource mobilization was constrained this led to delays in the completion of the project.[18]

(ii)Problems related to balance of payments crisis

Projects which have a large foreign exchange content, and whose materials to be imported are not covered fully in the external finance package, are likely to suffer delay in implementation.[19] Release of foreign exchange in large amounts has always been a problem, and

delays in project implementation increase when the contract is awarded to a local company. Its voice will not be heard at the Bank unlike a foreign company which might exert more pressure on the government and bank authorities so as to complete the project on time. From table 9:5 below it is quite clear that most institutions are never able to exhaust all the funds allocated to them. Infact the spending situation has deteriorated with the passage of time. In the latest period, 1979/80, the level of funds utilization was much lower than 1974/75. Variation exists among the spending agencies as well.

Table 9:5 DEVELOPMENT UTILIZATION CAPACITY Tsh. in millions.

Spending	1974/75			1979/80		
Agency	Planned (1)	Actual(2)	%(2/1)	Planned(1)	Actual(2)	%(2/1)
M'TRY	838.4	680.8	81.2	2886.0	1796.0	62.2
P'TAL	1135.6	858.4	75.6	4537.1	2305.2	50.8
R'ONS	324.4	314.9	97.1	726.7	489.5	67.4

Note: Spending Agency is the Implementing Agency. M'TRY stands for Ministry: P'TAL stands for Parastatal, while R'ONS stands for Regions.

Source: DevPlan. (1980), APR, Adapted from: Table 1 p.4.

The regions which handle small projects which do not require a lot of foreign exchange have a higher utilization capacity than the rest which carry out more grandiose projects. Even the Ministries have a higher ratio of utlization compared to parastatals which are involved

in developing more complicated industrial projects.

(iii) Unavailability of local projects inputs in required quantities

Projects undertaken require materials such as cement, steel, nails, wire, roofing materials etc. With the balance of payments crisis, industries which have a high import content in their raw materials and accessories, find themselves working far below their normal capacity, sometimes experiencing short time closures. These shortages in locally produced materials cause a tremendously big delay in implementation of projects thus tying up both foreign and local funds. In fact in an effort to reduce the discrepancy in the funds utilization observed in table 9:3 above, Dev. Plan is attempting to incorporate material planning in its financial planning.[20] The implication is that financial resources wil be allocated to projects only to the extent that they are supported with locally produced inputs, except where direct importation is assured.

(iv) Aid procedures too complicated for Tanzania's administrative capacity.

The weak reporting and accounting systems in Tanzania do affect the disbursement of external resources as well. The severity of the problem increases with the disbursement method adopted. If the 'direct payments' method is used where the donor pays directly for the goods and services, then problems of accounting might be less although reports on the projects will still be demanded. If the 'cash payments' method is used, then poor accounting and reporting could affect disbursements because further funds would be released only after filing progress reports. Disbursements get delayed further when the 'reimbursement' method is used. In the latter case timely

reinbursement can take place if the project progress reports are accurate, sufficiently detailed and supported by relevant expenditure documents and works certificates, and the claims are lodged on time. In the Manual for External Finance it is cited that some reimbursement cases have taken three years before the funds are received.[21] If we examine some projects' physical implementation reports for the periods 1974/75 and 1979/80, the reason for delays in disbursement of external funds to Tanzania become clear. Some projects had no reports at all, some were suspended while others were not started, and this would affect whatever external finances were attached to the projects.[22]

Table 9:6 PROJECTS: PHYSICAL PERFORMANCE

	1974/75		1979/80	
	No.of projects	%	No. of projects	%
Not clearly reported	12	1.0	313	15.8
Not started	49	3.9	109	5.5
Suspended	21	1.7	27	1.4
Not completed	696	55.9	1140	57.4
Computed	447	35.9	358	18.0
On going	19	1.5	38	1.9
Total	1244	100	1985	100.0

Source: APR Table:2 p.5. (Dev. Plan (1980) Op.cit.)

N.B. Projects for parastatals, Ministries and Regions.

Moreoever, if some project reports cannot be ready even after the year of implementation has ended, one wonders how many reports can be obtained in time in the course of the year of implementation.

(v) Policies regarding aid composition emphasized project aid which had led to inflexibility in aid utilization.

A recent World Bank and IMF study has indicated that for many years the bulk of aid was in the form of project aid (Cassen 1986. p.104). According to the study, programme aid featured only in the late 1960s and early 1980s (Cassen 1986: p.150). The report further emphasizes the lack of coordination of project aid by both donors and recipients. This has led to what the report terms 'project proliferation' implying that "aid projects are planted here and there in an almost haphazard way and in excessive numbers". This project congestion has exacerbated existing manpower and administrative shortcomings. Moreoever, this project proliferation makes excessive demand on complementary resources required from the recipient (Cassen op.cit. pp.219-221). While the latter report accepts the necessity for programme aid (a line of action already adopted by many donors) which would help to reduce the recipient's burden on complementary domestic resources - recurrent and local costs in the budget, foreign exchange, or manpower, it however emphasizes the need for better coordination of aid, and secondly the need for policy dialogue which would lead to the setting up of clear tasks or objectives to be accomplished. (Cassen op.cit. pp.232-233). Thus, a better mix of project and programme aid would enhance the absorptive capacity of the

recipient to utilize efficiently any additional resources placed at its disposal.

(vi). Underspending of committed external finance being caused by non-fulfilment by Tanzanian Government of policy conditions imposed by donors.

Although it is not possible to determine the exact amount of committed external finance which Tanzania could not utilize solely because of its failure to fulfil some of the policy conditions imposed by the donors, on grounds of the other factors discussed above, however, there is no doubt that its failure to reach an agreement with IMF and the World Bank led to the withholding of the structural adjustment programme funds by the donors. The failure in policy dialogue between Tanzania and IMF/World Bank has been highlighted by Cassen (1986, op. cit. pp.90-92). Besides, as highlighted further in Appendix 2 p.537-9 below, an agreement between the two (Tanzania and IMF/World Bank) was concluded in the late part of 1986. But from late 1970s (mainly 1979), Tanzania could not draw most of the funds agreed upon with IMF and the World Bank. For example, in late 1979 and 1980 Tanzania had some credit facilities made available by IMF which would have covered about three years. However, due to its failure to fulfil some of the policy conditions or targets, inter alia, a substantial devaluation of the currency, a reduction in government spending, a reduction in government budget deficits, a substantial adjustment of agricultural producer prices, and interest adjustment etc. the lending programme fell apart. (Green, 1983: op.cit. pp.358-9; Also Payer, 1983: op.cit. pp.799-800 etc.) Although the case of Tanzania versus IMF/World Bank has been thoroughly documented, we also know (mainly

through the media) that the other official donors, mainly bilateral, withheld their structural adjustment loans pending the reaching of an agreement with IMF concerning the policy targets that would have to be fulfilled by the Government.

OECD has also pointed out some major procedural obstacles to effective aid implementation. Most of the points raised by the latter support those mentioned above.[23]

IV CASE STUDY OF SELECTED DONORS AND SECTORS PERFORMANCE IN FUNDS DISBURSEMENT

(i) Donors performance

The index that will be used to measure the pattern of performance of donors in disbursing funds committed in a particular year is the annual and average disbursement/commitment ratio. Only a sample of countries and multilateral institutions have been taken. Table 9:7 below gives ratios for the chosen countries between 1975 and 1983, for which the data were available.[24] As can be seen from the ratios in table 9:7, there has been varying performances within a country and among the countries under observation. The desirable level of performance would be one of 100%, whereby disbursements equal commitments. A ratio less than 100% implies that there has been less efficiency in transferring the funds, while any ratio above 100% could imply two things. First, is the interperiods overlapping of disbursements, which confirms the inefficiency that exists, and secondly, it implies the transfer of funds on an adhoc basis, that is without formal commitment. In the absence of detailed data, it is not possible to decompose the excess disbursements to those of "Overlapping" and those of "adhoc" transfer.

Table 9:7 DISBURSEMENT/COMMITMENT RATIO (%TAGES)

ROW		1976	1977	1978	1979	1980	1981	1982	1983	Av.
1	U.S.	97.7	124.5	85.	46	89.2	99.4	129.4	232.5	101.4
2	W.GERMANY	36.6	82.4	90.8	102.2	78.2	142.3	84.5	134.4	85.8
3	SWEDEN	89.2	31.8	158.4	50.2	470.5	92.5	94.5	113.9	83.6
4	NE'LANDS	89.6	64.0	76.7	107.1	81.6	95.4	115.5	104.5	88.4
5	CANADA	113.4	10.5	83.7	60.6	213.2	202.9	45.8	130.8	67.8
6	NORWAY	145	130.5	303.9	72.5	139.9	64.8	146.2	120.7	113.1
7	U.K		139.3	28.5	39.7	243.5	169.7	284.1	118.9	94.6
8	IDA	47.3	80.1	24.5	73.6	23.5	83.5	195.2	109.4	66.4
9	ECC		16.9	92.6	113.2	100	75.7	48.9	231.6	85

10 ALL SOURCES COMBINED

1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	ALL
54.6	93.5	67.0	54.7	77.1	74.1	85.6	97.4	96.4	116.1	82.6

Source: Computed from data provided in OECD (various years) Geographical Distribution of Financial Flows to Developing Countries, Paris OECD. See Appendix 9, Table 9A-4

Looking at the overall ratios, countries such as U.S. and Norway have had ratios exceeding 100%. The rest of the sampled countries had their ratios below 100%. The IDA has not been doing very well. Its average ratio is about 66.4%, the lowest. The variations in ratios among countries and institutions are bound to arise because efficiency in disbursements has depended on factors such as type of projects undertaken, project complexity, availability of local materials, location of the project, proximity to good transportation system etc. Since projects are financed chiefly on a source of finance (country) basis, those supporting projects marked with obscurity and hence some implementation problems are bound to go through a slow process of fund disbursing.

When individual countries' ratios are compared with the combined ratios appearing in Table 9:7 row 10, not much difference is observable. In nearly all the years, the combined ratios have remained below 100%, which also implies that even the overlapping does not help to improve the disbursement performance. The average ratio of 82.6% in the combined situation reflects the average situation in the individual countries' performance.

In view of the above observations we can conclude that funds utilization, represented by the disbursements, have been lagging behind the committed funds. This problem does not appear to be related to only a few countries, it is rather a general one.

To have much more enlightment about the disbursements problems a further sectoral analysis is done for the purpose of identifying the length of time taken to disburse loans in the sectors so as to identify the sectors which take longer to exhaust funds allocated to

their projects. The data analysis is presented in table 9:8 below.

The data considered for the above analysis pertains to all loans taken between 1970/71 and 1980/81 which are listed in the appropriation accounts under project title. The allocation of the projects among the sectors is a subjective one, which implies that the analysis is just a rough measure, which therefore, should be interpreted with caution.

It can be observed that disbursements for some projects in certain sectors take quite a long time compared to the rest. Disbursements in the water projects, agriculture, education and electric power projects take quite along time to complete. On the average the latter take more than four years, with some cases taking seven and eight years, especially in the agriculture and education sectors. In the case of electric power projects and infrastructure (roads, bridges, railways, airports etc) sector, disbursements take much shorter time for projects to complete. The average period for the latter is between one and four years. In the case of projects grouped under the heading 'General', disbursements were observed to take between two and four years.

Table 9:8 Disbursement of loans to Sectorial Projects Started between 1970 & 1971: Year taken

Number of projects taking years shown below								
Years / Sector	1	2	3	4	5	6	7	8
WATER SUPPLY		2		4	3	1		
AGRICULTURE	1		2	3	1	2	1	1
EDUCATION				2		1		1
HOUSING	2							
ELECTRIC POWER	2	1	1	3	2			
EC. INFRASTRUCTURE (Railways, Airports Road, Bridges etc)	11	4	2	1	4			
ECONOMIC INVESTMENTS (Hotels & Plantations)	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F
SHARE ACQUISITION IN CDs	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F
COMPENSATION	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F
GENERAL $	0	3	1	3				

Notes: N/F No new funds were acquired between 1970 and 1981

$ Projects falling under this category are those which could not be identified directly with the sectors listed in the table. The nature of project undertaken was not indicated explicitly.

Source: Prepared from loans information presented in Appropriation Accounts Volume (Various Years).

In sectors where disbursement appear to take a long time, on a priori grounds it could be concluded that they are the sectors which cover the rural areas which are difficult to reach in all respects. Water, education and agriculture projects in rural areas cannot be developed as smoothly as those projects undertaken in the urban areas where infrastructure and supportive facilities are developed, and where even the quality of the unskilled labour, which is expected to participate a lot in project development is much superior (experience wise) compared to that in the rural areas.

In view of the above, the variations which were noted in section II (between estimated and actual foreign resources) would inevitably arise. The environment under which the projects are undertaken, in the sense of the concentration of projects under the water supply sector, Agriculture, Education and infrastructure sectors, which cover very remote areas of the country, have an imparing effect on the implementation of projects. The external funds, which normally have a strict spending supervision from the donors, would therefore not be used as scheduled.

v THE SCOPE FOR REDUCING UTILIZATION DISCREPANCIES

The discussion in this section has to shift to consider external funds utilization rather than forecasting, for reasons already explained in the above sections. The suggestions which will be raised below will therefore be aimed at reducing the gap between the external funds allocated to projects at the budget time (ie. predicted disbursement) and the actual outturn.

Aid utilization underlines the problems of harmonizing expenditure programmes with revenue in LDCS. The underutilization of committed aid could tempt an analyst to think that Tanzania is unable to conceive enough expenditure programmes to absorb the aid, implying that expenditure is the constraint rather than revenue. The study has certainly exposed the complexity of aid management, from both a donor and recipient point of view, and this has tended to underline the "vicious circle" of resource inadequacy. It needs to be stated clearly that the constraints are on revenues, both local and external. The donor policy of tying aid to specific projects, a procedure which does not give the government a chance to reallocate the resources to other projects or programmes which could absorb them much faster, implies that such aid did not help to alleviate the revenue problem. Thus, those projects with implementation problems result in unspent funds, giving a general impression of failure by government to prepare adequate expenditure programmes.

A number of suggestions have been raised that could help to close the gap between commitment and disbursement. If we are to assume that such a gap has arisen out of the failure of the recipient

economy to absorb the external resource put at its disposal, then the recommendations which have been pointed out by Cassen (as part of World Bank report) are most relevant. It has already been pointed out above that beginning with 1980, official donors (bilateral and multilateral) have realized that the poor economies relying on concessional lending need more of programme aid in contrast to the earlier emphasis on project aid (Cassen et.al. 1986 p.150). The World Bank's structural adjustment lendings are typical of the new direction in aid programmes (ibid p.82). But the report clearly points out that there is need for a more organized approach to aid give and take for it to be effective. Two areas of policy changes are emphasized. The first one is policy dialogue, while the second one is coordination and management. Policy dialogue refers to the exchanges between the donors and the recipient about the domestic policy framework required for the recipient which will influence the outcome of an aid transfer and the behaviour of the economy as a whole (Cassen 1986. p.69). It is assumed that when there is genuine understanding on what policies ought to be pursued by the recipient, then, policy conditionality which is a necessary counterpart of the programme aid needed by the poor economies, can be accepted by the recipients as constituting less of outside imposition. However, the success of the policy dialogue will depend on two factors, relevant mainly to the recipients. The first one is an improvement in negotiating skills, while the second is the strengthening of decision making capacities and economic policy-making institutions (Cassen 1986. p.97).

As far as coordination and management is concerned, the past practices which led to aid overload (uncontrolled proliferation of

projects), donor competition in the recipient's environment, and lack of consideration for complementary domestic resources etc. (Cassen 1986 pp 220-21) ought to be rectified. Coordination refers to both the donors and the recipients. On the part of the donors, it is argued that there should be a proper assessment of the needs of the recipient so that the resources which are mobilized will be related to such needs. Secondly, the donors ought to develop a system that will ensure that basic economic and technical analysis and information about a certain recipient is provided which would assist in making decisions on aid levels, project type, and category and aid administration (Cassen 1986. p.224). On the part of the recipient, coordination should emphasize on negotiation, implementation and monitoring of aid, with special focus on the implication of aid on manpower, recurrent costs and foreign exchange. To achieve the latter, it is advised that the recipients should set up a strong central unit in the government with complete central overview of the aid process. Such unit would provide link to the donor coordinating institutions, and within the country, to provide the necessary machinery for implementation and monitoring (Cassen 1986.p.232).

Besides the points raised above on 'dialogue' and coordination, which stress the prerequisites for effective aid programme, there are others too which need to be examined. One suggestion is to make project aid more flexible, in the sense of the recipient being given powers (by donors) to shift funds from one year to another, and between projects.[25] The practices of donors vary with the budgetary and financial control procedure prevailing in their countries (See Appendix 9 Table A-1). While some donors allow for automatic carry

forward, others insist on extra authorization to be obtained for unspent funds. Although authority to transfer would be granted eventually, however, the time that lapses could be the problem. Hence, a more flexible system of transferring funds to the next period, especialy where such funds are committed to a distinct physical project, could speed up the utilization and mitigate against the loss of purchasing power. As regards transferring funds among projects, the supporting argument posited for it is that it would enable the planners to substitute certain projects which fail to take off (Mushi et.al. 1982 p.32). While the principle of virement is acceptable for improved planning and budgeting,[26] in view of the fact that project planning, implementation and monitoring in Tanzania is very weak, allowing for such transfers could usher in even greater chaos. From table 9:6 above we even saw that there was no clear reports on a large number of projects. I therefore find no valid grounds to support the idea of virement.

Other recommendations which could reinforce the management part of external finance handling include:

(i) The government should train special finance officers who should be very conversant with various donors disbursement requirements to be attached to ministries, regions and other agencies to give instant advice to fund users, to assist in preparing the required reports and to be required to report to Director of External Finance immediately of any externally funded project that appears to run abnormally slower than scheduled.

(ii) Projects' feasibility studies ought to be revised regularly, in advance of project phase implementation so that the realistic

external and local costs are known so that appropriate funds allocation action can be taken well in advance.

(iii) Project negotiations ought to emphasize more on simplified plan of operation. Project teams, which could include a donor's resident overseers,[27] should be given more powers to make necessary alterations on a project without involving a change in the original agreement.

(iv) Aid negotiations should insist on less rigorous (tight) procedures for assessing the projects. These reports, whether accounting or physical, have to be within the capabilities of the resources available.

(v) Aid negotiators should insist on disbursements mechanisms which give government a chance to use fully funds offered. For example, the reimbursement mode which entails spending local funds first and then asking for reimbursement could lead to the project not taking off at all given the general shortage of funds; and if the project happens to have a high import content it would suffer more. The suggestion here is that the cash and the direct payments (goods and services delivered) methods should be preferred.

(vi) Donors should be involved more in preparing the feasibility studies so that they have a clear understanding of the environment under which the project will be established.[28]

(vii) The government should request donors to assist through long-term programme agreements as is done by some countries such as Norway, Sweden, Netherlands and multilaterial institutions such as UNDP. Such arrangements would stabilize short and medium term planning and instill confidence in projects implementation, especially where financial carry-overs arise.

viii. In combatting funds underutilization, there is also a need to re-examine the type of projects undertaken. Sometimes some of the projects have been of too large scale and of high technology (very capital intensive) nature. Apart from such projects coming to be "white elephants" after development, their establishment has always been saddled with problems. The higher the import content of the project's capital goods, in both local and external funds, the greater is the delay in competition. These delays tie-up the funds. Going for small scale projects which emphasize more on labour intensive techniques could expedite external funds utilization.

SUMMARY

This chapter has examined empirically the estimation of foreign borrowing in the course of budget preparation. Two categories of external financing were examined, namely loans and grants.

A comparison of the estimates with the outturn indicated that there was a significant amount of over-estimation, beginning in 1969/70. This over-estimation was characteristic of both grants and loans. In relative terms, the grants over-estimation ranged between 8% and 99% with an average error of 29.9%, while in the case of loans the over-estimation ranged betwen 10% and 65% with an average error of 35%.

An investigation of the variables which are used in predicting the amount of external financing required made it apparent that the predictions are done in quite a haphazard fashion. The latter reflected the lacunae of an explicit foreign credit policy. The guidelines available put emphasis on the terms of loans (ie concessional ones) which should be observed in securing the loans, and nothing is mentioned about the volume of loans. However, because of revenue uncertainty which manifests in project demands exceeding by far the available resources, the government is pushed into a situation of accepting any forthcoming external resources. So, the practice of determining external resources requirement has been based on what can be secured from the donors, without regard to its impact on other resource balance in the economy. Thus, the amount entering the budget estimates are those contracted. In view of the latter, it was argued that the discrepancies observed in both loans and grants

cases represented external finance under-absorption. Consequently, the analysis proceeded with the identification of those factors which caused such underutilization. The major factors identified were; lack of adequate counterpart resources - in terms of both funds and manpower; problems of input shortages related to the country's balance of payments crisis; inavailability of locally produced inputs for the projects in required quantities; and finally the donor and recipient aid handling procedures which were prohibitive to fast disbursement.

In a further examination of performance in funds disbursement by some selected donors, it was shown that most of the donors had disbursed less than committed. Among those selected, it was only U.S.A. and Norway which appeared to have disbursed (on the average) more funds than the committed amounts. But it was also argued that the disbursement ratio depended on a number of factors, such as: the volume of aid, type of project sponsored, and the geographical logistics of the project etc. The latter implied that those donors financing rural-side projects were likely to suffer lower disbursement ratios compared to those donors supporting urban-based projects.

Furthermore, an attempt was made to identify procedural and policy changes which, if undertaken, could help to reduce the under-utilization of external funds. Those which were stressed included, inter alia; an evolvement of a policy dialogue which should stress on: formation of an appropriate policy framework, and an identifcation of clear programmes and objectives which are to be accomplished; and secondly, an evolvement of a more effective system of coordinating and managing such aid. The latter action is demanded from both sides ie,

the donors and the recipients, although the latter is expected to do more by way of identifying effective aid and executing institutions. The latter points are emphasized in recognition of the current efforts by donors to give more of programme aid to the poor countries whose capacity to absorb further aid was declining due to lack of domestic complementary resources.

Finally, in considering the results of the above analysis in relation to the hypothesis stated in the introduction, we can conclude that variations in the actual inflows are not an outcome of improper specification of variables used in deriving the estimates. Given that the estimates indicated are confirmed inflows, variations in utilization can be attributed to other variables such as poor project planning, poor financial management and control etc. Some of the latter variables will be examined further in the chapter on development expenditure budget where projects screening is examined. In spite of the later, the fact that there are some factors which cause the underutilization of resources already committed continue to confirm the general hypothesis that inefficiencies in the budgetary system have contributed towards the economic crisis that the country has been facing.

NOTES

1. Mushi S.S. and Kyekshus H.eds (1982) Aid and Development: some Tanzanian experiences. p.28 Oslo: Norwegian Institute of International Affairs.

2. Some critics of foreign inflows, especially aid, have raised objection to aid on two main grounds.

   The first argument looks at aid as a tool used by the donor to perpetuate his control over the recipient and hence continue to to exploit. Consequently, the recipient gets underdeveloped more and more. This argument is posited by the school of thought that derives from the dependency theory. The second argument claims that aid inevitably expands the role of government, distorts market signals, and finances investments that the private sector would undertake if it were given a chance. While others would argue that a liberalized private sector could provide all the resources needed for development and so aid is not justified.

   However, these arguments have been dismised on the grounds that they are concerned with the way aid is implemented rather than the basic rationale. (World Bank, World Development Report 1985, pp101-102, Washington D.C.).

3. World Bank, World Development Report 1985, Washington D.C. p.102.

4. Cassen, R. and Associates (1986) Does Aid Work? pp 13-14 Oxford University Press.

   Examples of success include South Korea, Brazil, Colombia and

Thailand.

5. National Institute of Economic and Social Research "The assessment of the National Institute's Forecasts of GDP 1959-82. National Institute Economic Review Vol.105 (1983).

6 From chapter 3 we saw that a part of the foreign aid (about 20-30%) comes in form of import support, but there does not seem to exist an articulate policy on it. It appears as though aid in this area is sought when certain sectors are in severe crisis. Moreover, as pointed out by Cassen (1986. p.91), due to the failure of dialogue between Tanzania and IMF, there has never been any Structural Adjustment Lending (SAL), which presumably would have come in a more planned manner.

7. The policy to grant project aid dominated the 1970s. Changes to programme aid have taken place only in the 1980s (See Cassen et al (1986) op.cit. p.150).

8. World Bank (1984) Toward Sustained Development in Subsaharan Africa p.46. Washington D.C. The World Bank.
This message also features well in the new World Bank report as reported by Cassen et.al (1986) pp.98-100. The main emphasis is on 'policy dialogue' which should bridge the gap between Donors and Recipients over the policy reforms that need to be initiated.

9. OECD (1981 Compendium of Aid procedures (A review of current practices of members of D.A.c) p.44, Paris OECD.

10. United Republic of Tanzania (1973) Manual for External Finance p.13 Dar es Salaam, Treasury.

11. Mushi S.S. et. al. (1982) op.cit. p.29.

12. Ibid pp.28-29.

13. World Bank 'World Development Report' 1985 op.cit. p.45.

14. This view is well supported by Cassen et.al. (1986 p.25) as he notes "there is little evidence to support the view that aid reduces tax efforts in recipient countries, or increases budgeting deficits. One cannot argue that aid is systematically substituted for public savings by governments."

15. Mushi S.S. et.al (1982) op.cit. p.37.

16. The late 1970s and early 1980s saw a sharp rise in inflation rate. Between 1979-81 the rate changed from about 8% to over 30%. (See Green R.H. (1983) Political-Economic Adjustment and IMF Conditionalty: Tanzania 1974-81. In: Williams J. ed. IMF Conditionality: p.385 Washington D.C, Institute of International Economics.

17. Ibid p.365.
Also from appendix 9 table 9A-6 Cost overruns in selected projects point to the existing problem.

18. United Republic of Tanzania, Liason Engineers Report No.48, 5th Dec. 1983-29th Jan 1984: WINO-MAKAMBAKO SECTION. (The engineers report to project Planning Board.)
NB: The initial target cost for completing this section was Tsh. 265, 171, 927.
Cost fluctuation (inflationary) were expected to amount to Tsh. 153, 148, 094.
Other changes initiated on this section of the project were expected to cost an additional amount of Tsh. 196,732254 thus bringing final target cost to Shs. 615,052775, which is net of

any offsite (equipment) values to be transferred to the next phase II (Wino-Songea). Overall, phase I cost overruns due to inflation and improper design of the project amounted to 132%.

Worthwhile mentioning here are the findings of the World Bank out of its normal project performance audit. Out of 57 completed projects audited (evaluated), the cost experience and reasons for variations between actual and estimates were as follows:

	Cost Variation	%tage	Reason for Variation
(i)	Actual costs greater than estimates by more than 50%	15.0	Increase in project scope or required changes in project design.
(ii)	Actual costs greater than estimates by more than 25%	33.0	- do -
(iii)	Actual costs less than estimates.	50.0	(a) Due to reduction in scope of project. (b) Some bids were lower than anticipated.

Source: World Bank (1978) Annual Review of Project Performance Audit Results. P.4: Washington D.C. World Bank.

19. United Republic of Tanzania, Annual Performance Review of Tanzania's Annual Plan for 1979/80 p.6. Dar-es-Salaam, Ministry of Planning and Economic Affairs.

20. United Republic of Tanzania (1984) Manual for Budget Process in Tanzania - op.cit. p.41.

21. United Republic of Tanzania (1974) Manual for External Finance op.cit. p.86.

22. The reasons for the unsatisfactory state of project implementation, especially those 'not stated' or 'suspended' are explained well by the World Bank. The latter attributes the poor physical performance partly to: poor project design which sometimes proves to be technically faulty, or the preparation studies were insufficiently detailed to foresee difficulties subsequently encountered, and hence the abandoning or suspension or changing in scope of the project. (World Bank (1978) op.cit). p.3).

23. The Development Assistance Group - OECD considers the underlisted points to be the major procedural obstacles to effective aid implementation.

    (a) Donors have over-complicated project criteria and appraisal procedures.

    (b) Both donors and recipients have unsatisfactory negotiation procedures.,

    (c) Inefficient internal procedures in recipient countries and in donor agencies. Absence of a strong central organization responsible for the coordination of all development and aid matters in recipient countries is a source of a host of problems.

    (d)Donors' complicated or restrictive procurement practices -

arising mainly from tied aid.

(e)Haphazard auditing and supervision arrangements.

(f)Inadequate exchange of technical information and reporting, affecting both donors and recipients.

(g)Technical assistance personnel are oftenly presenting varying counterpart requirements. There is no harmony on the conditions which the different donors require from the recipient countries in support of the technical assistance personnel.

(h)Technical assistance in form of Training and Scholarship programmes for recipient countries doesn't appear to be satisfactory, because some of the trainees are poorly selected, some don't return home after the studies, or their new skills are not usable at home (OECD (1970) Review Development Assistant, p.141 Paris, OECD).

24. The disbursement figures used are not necessarily a part of commitments shown against them. Disbursement of a certain commitment have in practice, taken several years.

25. Mushi, S.S. et. al (1982) op.cit. p.31.

26. United Nations (1976) Budgeting and Planning for Development in Developing countries p.6 New York. The Uniuted Nations.

27. The donor's resident overseer is taken to mean 'field mission' as suggested in the OECD's (1981) Compendium of Aid (op.cit. p.31). But decision-making authority has to be delegated to them for effective operation.

28. In the World Bank's audit report of projects sponsored by it, two weaknesses which are underlined as having contributed to

poor project performance in recipient countries are:

(a)Poor quality of project preparation, implying that the project designs were faulty in one way or the other,

(b)Lack of adequate understanding of the local conditions in which the Bank operated, a situation which ever undermined the institutional objectives which had been expected from such projects.

(World Bank (1978) op.cit. ppIV-5)

CHAPTER 10

RECURRENT EXPENDITURE FORECASTS - AN EMPIRICAL INVESTIGATION

I INTRODUCTION

This Chapter examines empirically the forecasting of recurrent expenditure in Tanzania. The investigation is done with the purpose of ascertaining whether the errors of forecasting are caused by improper specification of predictor variables or not. The findings of the above investigation are intended to substantiate the general proposition that the present economic problems have been caused partly by poor management of public expenditure.

The Chapter will explore in detail the factors which have been used in predicting recurrent expenditure at both national (Treasury) and spending agency (Ministries and regions) level, with the purpose of determining how such factors have caused the forecasting errors observable. Some evidence collected from official (publications) and non-official (collections from Ministries including interviews) sources will be used to support the arguments raised in respect of the techniques used to prepare the forecasts. Wherever necessary, some of the constraints which affect budget preparation as a whole will be raised. Such constraints include, inter alia, legal, political, economic, environmental and time factor. The ultimate purpose of the analysis is to see how the errors can be reduced given that the behaviour of the factors used in forecasting is known.

The types of expenditure that will be covered include aggregate

and disaggregated current expenditure. The disaggregated expenditure will be on Ministerial basis. In addition to discussing the original forecasts, the supplementary estimates will be discussed as well.

The lack of research literature on Tanzania's budgetary system will certainly limit the further verification of my findings. What is expected to happen in lieu of the latter is to have such findings compared with what has been happening in other developing countries where some literature is available.

The Chapter outline will be as follows. In Section II the forecasts will be analysed in relation to the outturn. In Section III the predictor variables used in forecasting current expenditure will be discussed. In Section IV an examination of supplementary estimates in relation to the recurrent expenditure will be done. Also those factors which cause the setting up of the supplementary budget will be evaluated. In Section V a diagnosis of deviations in forecasts will be made and the scope for reducing the discrepancies will be explored. Finally, there will be a summary highlighting on the critical results discovered in the other sections.

II FORECASTS IN RELATION TO OUTTURN

(a) Aggregate forecasted current expenditure in relation to outturn.

In general, a comparison of the forecasts in relation to the outturn does not indicate abnormal forecasting errors. The size of the errors has also remained fairly low. The errors appear in Table 10:1 below.

TABLE 10: 1 CURRENT EXPENDITURE FORECASTING ERRORS.

Yr.'67-72	72/73	73/74	74/75	75/76	76/77	77/78	78/79	79/80	80/81	81/82
E.(%) INS	6.5	14.2	26.2	18.5	12.4	1.9	19.0	18.5	8.5	13.9

NOTE: (1) INS = Insignificant errors. E.= Errors, Yr.= Years.

(2) Errors = is the ratio of difference between actual and the forecasted value to the forecasted values.

Source: Computed from data in Appendix 10 Table 10A-1

From the above table 10:1, the maximum single period error is just 26.2%. A computed average error amounts to 11%. The latter figures do not appear to be extraordinary or extremely large.

When the absolute error figures (outturns less forecasts) are checked for trend pattern, it can be observed from equation (1A) below that there has been an increase with time. (The equation appears to be a good fit in view of the high value of R^2 , and also the coefficient on Trend is significant too due to the high value of t-ratio)

$$E = 249.33 + 92.487\ (T)$$

$$(-1.34) \quad (4.8) \qquad R^2 = .62 \qquad (1A)$$

(E is the absolute errors, T is the trend and the figures in

parentheses are t-ratios.)

The positive coefficient on the trend points to the growth in errors over time.

When the errors are expressed as a percentage of the forecasts and then regressed on time, they also indicate an upward trend, but the equation appear to be very weak : $R^2 = 0.25$. The t-statistic is also barely high to confirm the strength of the coefficient. Equation (1B) below refers:

$$E = 0.01366 + 0.00903\ (T) \qquad R^2 = 0.25 \qquad (1B)$$
$$(0.33) \quad (2.15)$$

(E is errors in % tage, T is trend, figures in parentheses are t-ratios)

A further observation of the errors reveals a general tendency to under predict. The errors presented above are of positive nature implying that the actual expenditures have been exceeding the forecasts. The underprediction becomes apparent from a regression function of the actual expenditures regressed against the forecasted expenditures, and also from a scatter diagram of the forecasts and outturns data. The latter appear as equation (1) and figure 10:1 below:

$$A = 45.7 + 1.1005E$$
$$(.28) \quad (43.0) \qquad R^2 = 99 \qquad (1)$$

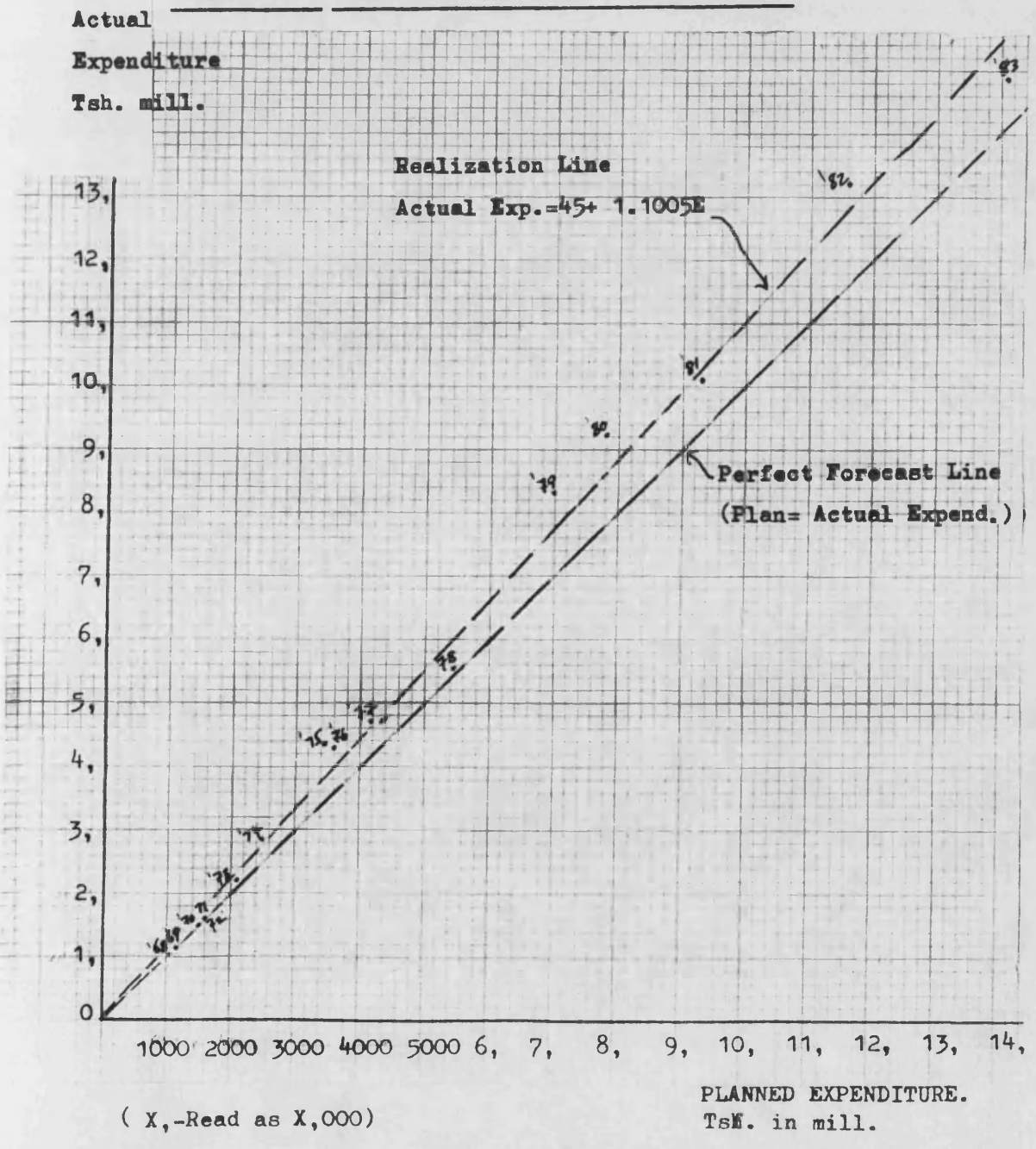
(A stands for the actual current expenditure while E is the forecasted expenditure. The figures in parenthesis are t-ratios)

The equation is a good fit on the strength of the high value of $R^2 = 0.99$. Similarly, the coefficient appear to be significant in view of the high value of t-ratio. The Constant is insignificant as a result

of the insignificant value of t-ratio considered at the 5% level of significance. The coefficient, which is the area of interest, has a value of 1.1005 which is greater than unity. This points to the tendency to underpredict.

An examination of figure 10:1 below shows that all the data plots and the plotted equation line lie to the left of the perfect forecast line which is a clear sign of under predictions.

FIGURE10:1. FORECASTS AND OUTTURN SCATTER PLOT



(b) Disaggregated forecasted current expenditure in relation to outturn.

The discussion in this section focuses on Ministerial forecasts. The latter has been adopted rather than the other functional classification of expenditure eg. Social, economic and general services, because it was easier to identify the forecasts with Ministries which gave more reliable data. On the other hand, over the period of study, there have been a number of Ministrial re-organizations which make a compilation of the data difficult. To overcome the problem, some effort had to be made to regroup some of the Ministries so that consistent data for analysis could be obtained.

In general, performance in forecasting has varied among the Ministries. While others have experienced modest forecasting errors, others have seen quite large errors. The forecasting errors of the various Ministries appear in table 10: 2 below, in the order of largest average error to the lowest average error.

Table 10 : 2 PERCENTAGE FORECASET ERRORS IN PARTICULAR MINISTRIES

MINISTRY OF	MINIMUM ERROR (%)	MAXIMUM ERROR (%)	AVERAGE ERROR (%)
Defence & National Service	-2	+ 741.8	70.6
Finance & Dev Plan	-4.4	+ 73.6	27.5
Foreign Affairs	0	+ 47.1	23.0
Home Affairs	0	+ 25.7	15.3
Communications, Labour & Works	0	+ 85.7	12.9
Agriculture, Forestry & Wildlife	0	+ 75.8	11.9
Information & Tourism	0	+ 25.0	10.1
Industries, Commerce Minerals & Power	0	+ 25.4	9.5
Lands, Settlement & Water Development	0	+ 16.7	6.4
Health & Social Welfare	+1.7	+ 17.8	5.9
National Education	0	+ 24.0	4.7

Note: (1) Maximum Error = Maximum absolute error as a % tage of budget estimate.

(2) Average Error = Average absolute Error as %tage of budget estimate.

Source: Computed from data appearing in appendix 10 Table A-2

When the Ministerial expenditure out turns are regressed on the forecasts, we observe that some Ministries have tended to underpredict, as was the case in total recurrent expenditure, while others have been overpredicting. The coefficient on the estimates has been used to judge whether it is over-or underprediction case. A coefficient greater than unity implies underprediction, and if it is less than unity, it implies overprediction. From table 10:3 below, group A stands for underpredictions while group B stands for overpredictions.

TABLE 10:3 REGRESSION EQUATIONS FOR VARIOUS MINISTRIES

GROUP A

MINISTRY	EQUATION	R^2	NUMBER
DEFENCE	A = 101.68 + 1.402E		
	(.64) (5.6)	0.69	(2)
HOME AFFAIRS	A = -23.5 + 1.23E		
	(-2.8) (48.7)	0.99	(3)
FOREIGN AFFAIRS	A = 1.38 + 1.158E		
	(.199) (12.6)	0.92	(4)
JUSTICE	A = 0.27 + 1.06E		
	(-.31) (56.4)	0.995	(5)

GROUP B

EDUCATION	A = 25.05 + 0.95		
	(1.86) (31.9)	0.99	(6)
HEALTH	A = 17.08 + 0.935E		
	(3.4) (38.6)	0.99	(7)
AGRICULTURE	A = 9.544 + 0.99L3E		
	(.60) (10.3)	0.88	(8)

COMMWORKS	A = 2.686 + 0.983E		
	(.28) (14.4)	0.94	(9)
LAND	A = .397 + 0.98E		
	(.25) (19.3)	0.96	(10)
INFORMATION	A = 3.79 + 0.87E		
	(2.2) (17.6)	0.96	(11)
FINANCE	A =-11.92 + 0.772E		
	(-1.7) (12.1)	0.91	(12)
INDUSTRIES	A = 1.99 + 0.912E		
	(1.04) (18.8)	0.96	(13)

(For all equations, A stands for actual expenditure, E stands for the predictions, while the values in parenthesis stand for t-ratios. R^2 is the correlation coefficient.)

Note: (1) The Significance of the coefficients on the predictions are confirmed by the high values of t-ratios which have been tested using a 5% level of significance.

(2) In all the equations the high values of R^2 confirm that the regression functions are strong.

Although the Ministries which indicate a tendency to underpredict are fewer (4 in number) than those which appear to have overpredicted (8 in number), a situation observable from table 10:3 above, they however have influenced the overall results (the underprediction) which were noted in part (a) above. This is due to the large errors (represented by the average errors in table 10:2 above) observed especially in respect of the Ministries of Defence and

National Service, Home Affairs, and Foreign Affairs.

Given the errors observed in this section, we now need to know the factors which have been taken into account in generating the forecasts. This is tackled in section III below.

III CONSIDERATION AND EVALUATION OF FACTORS TAKEN INTO ACCOUNT IN PROJECTION OF RECURRENT EXPENDITURE

In chapter 7 above, the conceptual framework for projecting expenditure was outlined. In looking at forecasting factors which had been outlined for Tanzania (chapt 7 part III), it was pointed out that the manual guidance had not been sufficiently detailed to provide a tight criteria for forecasting the recurrent expenditures. Moreover, this weakness was seen to have a greater impact on the category of 'other charges' expenditure than was the case for "personal emoluments" expenditure. In the case of 'personal emoluments' there is usually no room for manipulation because one is concerned with paying out actual salaries and wages and meeting other statutory obligations (e.g. payroll taxes, pension, payroll levies and other allowances etc) related to employment. Problems can therefore be anticipated in the category of 'other charges' where payments are not fixed in nature and where statutory obligations are limited.

In practice then, what factors are taken into account in forecasting both 'personal emoluments' and 'other charges' categories of recurrent expenditure?

(i) Personal emoluments: The factors which are considered in estimating expenditure related to employment appear to be uniform for both Ministries and regions.[1] The increase and reduction of number of posts in any Ministry or region is controlled by the Ministry of labour, Manpower Development and Administration. Any change in manpower establishment has to be approved by the latter, otherwise

unapproved post will not be funded by Treasury.[2] Salaries and Wages paid in government departments are covered in government salary schemes so that the costing of staffed positions is just a matter of using the correct salary scale. Other factors, which are borne in mind include expected new employment and promotions; incremental dates and amount of increments for each employee; contributions to provident fund and pension scheme, expected employee-transfer (for estimating disturbance allowance); expected overtime man-hours, etc. Applying most of these factors is fairly straightforward because there are standard rates set for nearly each cost item considered in compiling emoluments estimates. Moreover, each accounting officer is required to file with the Treasury a list of all employees to support his estimates. The latter is provided under form TFN351C for staff specification appearing below as Exhibit 10:1.

Exhibit 10:1

THE UNITED REPUBLIC OF TANZANIA

IFN. 351C
(Revised 1978)

STAFF SPECIFICATION

Ministry			Date			
Region			Prepared by			
Activity			Sub-Vote		Item	
Name	Payroll Check number	Designation	Salary Scale	Shs. per annum 19 /19	* Sup. Sch.	Notes

*Superannuation Scheme: "P" = Pensionable, "G" = GEPF, "N" = NPF.

GP/L/D/

SOURCE: Ministry of Finance (Ibid.) p.35

(ii) Other charges: This category covers all other expenses of non-employment nature which fall under recurrent expenditure. In this category there were a lot of variations in the factors which were taken into account in generating the forecasts. Such variations however reflect the inadequacy of guidelines given in the manual mentioned above, a situation already highlighted in chapter 7 above. Apart from lack of clear guidance as to what factors and which formulae to use in preparing their forecasts there are other administrative problems which have in fact pushed budgeting into a quasi-chaotic situation. This will be discussed in brief below.

In general, most of the Ministries and regions interviewed indicated a deep sense of dissatisfaction, and to some extent some frustration, over the way the Treasury manages the budget preparation. This has had some negative effect on the officers involved in the budget; some becoming very pessimistic indeed about what they expect to be allocated by Treasury. Such hardened attitudes have been reflected in the process of preparing the forecasts, as will be shown below. However, the cause of the indignation is not Treasury alone. The Ministries and the regions are to be blamed as well for the deficiencies observed in budget preparation. What are these short-comings?

The problems inherent in the Treasury and spending agencies could be summarized as follows. On the part of Treasury, the main problem is its delay in releasing the "ceilings" and the other guidelines which are part of its Circular No.I. As shown on Table 7:1 (chapter 7 above) which indicates the key dates on the budget cycle, the Treasury Circular No.I is expected to be released to spending

agencies between December and January. But what happens is that the circular reaches the agencies between late February and March. For example, Treasury Circular No.I of 1982/83 was dated 2nd March 1982, while that for 1983/84 was dated 26th February 1983. This implies that the circulars were released after those dates. Nearly all the Ministries which are located in Dar-es-salaam, the same as Treasury, indicated that they received the circulars between February and March. The situation is even worse on the part of the Regions because, first, they are located away from Dar-es-salaam which prolongs the delivery time and secondly, their dispatch has to go through the Prime Minister's office through which their expenditure forecasts are channelled. And as if not conscious of time factor in budget preparation, the Treasury arranges for discussions of budget estimates with spending agencies beginning mid-March. For example, exhibit 10:2 below which is a part of the 1983/84 circular dated 26th February 1983, schedules accounting officers to submit draft estimates by Mid-March. Budget examination is scheduled to be completed by first week of April.

EXHIBIT 10:2. SCHEDULE FOR SCRUTINY OF BUDGET: 1983/84.

VOTE	DEPARTMENT/ AGENCY	DATE FOR SUBMITTING ESTIMATES	DATE FOR DISCUSSION	OFFICER RESPONSIBLE AT TREASURY	ROOM	TIME
20	IKULU	18th. March 1983	22nd. March 1983	Nd. T.A.H. Ragije/Nd. M. Sagala	259	9.00AM
30	OFISI YA RAIS			Nd. T.A.H. Ragije/M. Sagala	259	
31	OFISI YA MAKAMU			Nd.C. Kibaja/S. Mtikila	248	
33	UONGOZI			Nd. C. Shumbusho/N. Ntambi	240	
60	TUMEBEI			Nd. M.E.J. Owino/M. Mlangwa	114	
22	DENI LA TAIFA	19th. March 1983	23rd. March 1983	Nd. T.A.H. Ragije/M. Sagala	259	9.00AM
54	MIPANGO			Nd. M.E.J. Owino/M. Mlangwa	114	
45	UKAGUZI			Nd. C. Kibaja/S. Mtikila	248	
58	RADIO			Nd. C. Shumbusho/N. Ntambi	240	
47	BIASHARA	21st. March 1983	24th. March 1983	Nd. T.A.H. Ragije/M. Sagala	259	9.00AM
32	UTUMISHI			Nd. C. Shumbusho/N. Ntambi	240	
63	SCOPO			Nd. M.E.J. Owino/M. Mlangwa	114	
41	SHERIA			Nd. C. Kibaja/S. Mtikila	248	
40	MAHAKAMA	22nd. March 1983	25th. March 1983	Nd. C. Kibaja/S. Mtikila	248	9.00AM
44	VIWANDA			Nd. T.A.H. Ragije/M. Sagala	259	
65	MIFUGO			Nd. M.E.J. Owino/M. Mlangwa	114	
64	MADINI			Nd. C. Shumbusho/N. Ntambi	240	
56	MAJI	23th. March 1983	25th. March 1983	Nd. C. Shumbusho/N. Ntambi	240	9.00AM
36	TUMEAJIRI			Nd. M.E.J. Owino/M. Mlangwa	114	
50	HAZINA			Nd. T.A.H. Ragije/M. Sagala	259	
42	BUNGE			Nd. C. Kibaja/S. Mtikila	248	
39	JKT	24th. March 1983	29th. March 1983	Nd. T.A.H. Ragije/S. Mtikila	259	9.00AM
59	MAKAO MAKUU			Nd. M.E.J. Owino/M. Mlangwa	114	
55	MALIASILI			Nd. C. Kibaja/S. Mtikila	248	
99	ARDHI			Nd. C. Shumbusho/N. Ntambi	240	
61	ULINZI	25th. March 1983	29th. March 1983	Nd. T.A.H. Ragije/ M. Sagala	259	9.00AM
37	WAZIRI MKUU			Nd. M.E.J. Owino/M. Mlangwa	114	
57	KAZIUSTAWI			Nd. C. Shumbusho/N. Ntambi	240	
48	UJENZI			Nd. C. Kibaja/S. Mtikila	114	

SOURCE: United Republic of Tanzania (1983). Adapted from Treasury Circular No. 1 1983/84

In view of the above, the spending agencies are actually put under unnecessary time pressure and denied the opportunity to adjust their forecasts to the 'ceilings' sensibly. In practice, most spending agencies have to start preparing the expenditure forecasts as early as December so that the compilation can be completed well in time by early March when they are due for review with Treasury. Thus, the lately received 'ceilings' do not pass any advantage to the agencies. Consequently, any arbitrary adjustments on the padded estimates to reflect the 'ceiling' levels would inevitably lead to unwarranted friction within the spending agency and possibly with the Treasury itself.

The second cause of dissatisfaction as pointed out by some of the regions and ministries about Treasury is that the latter does not stick to the 'ceilings' in approving agency estimates. For a few years where the ceiling figures could be obtained, it is quite clear that approved estimates have been higher than the ceiling amounts. Moreover, the variation from the ceiling amounts has been growing with time. As can be observed from table 10:4 below, the excess amounts have grown from 10% in 1979/80 to 32.1% in 1984/85. Sometimes, those who have tried to stick to the 'ceilings' have come to consider themselves penalized when they discover that other agencies which exceeded the 'ceilings' got away with it. Conceptually, the success of using ceilings depends mainly on how they are administered. As has been pointed out by Caiden and Wildavsky; after setting the ceilings, first, it should be indicated that if there are special situations or expenses which are absolutely necessary, then special justification should be presented, and secondly, Treasury ought to show even-handed

treatment of the spending agencies.[3] But does the Treasury administer the ceilings as proposed above? An examination of the circular No.Is reveals that Accounting Officers are advised to ensure that all inevitable expenditures are accorded due consideration.[4] Some of the Ministries, especially that of Health, indicated their awareness of the flexibility point in ceilings. Also the Treasury budget officer whom I interviewed and who personally reviews some of the ministerial estimates, pointed out that "during budget scrutiny (review) the accounting officer is required to substantiate the reasons for any overstated estimates. The same applies to understated estimates."[5]

TABLE 10:4 RATIO OF APPROVED ESTIMATES TO CEILING

Million of Tshs.

PERIOD	CEILINGS AMOUNT	APPROVED ESTIMATES	%TAGE OF APPROVED EST. TO CEILING AMOUNT
1979/80	7,077	7,788	110.0%
1980/81	7,734	9,342	120.8%
1981/82	9.192	11,605	126.3%
1982/83	10,404	14,144	135.9%
1984/85	13,716	18,119	132.1%

Source: Various Treasury Circular No.I, United Republic of Tanzania.

The latter implies that the 'ceilings' are not intended to be used in

a very rigid manner, which also implies that those seeking additional resources have to put in a well supported argument. Those agencies which prepare themselves well, manage to convince the Treasury to accept their overstated estimates. For example, in the case of Ministry of Health, the finance officer who was interviewed confidently indicated that he considered the discussion between Health and Treasury as a (budget) "bargaining move" and how much is cut that is above ceiling "depends on defence put forward."[6] The losers would be those who do not study the circulars carefully; those who are ill-prepared and disorganised in presenting their draft estimates. It is interesting to note that most of the circulars point out to non-observance of laid down procedures for forecasting expenditure related to newly completed development projects. While such forecasts are supposed to be presented separately, and have funds set and held by Treasury, most accounting officers do not follow that procedure and the funds set aside are therefore not used to finance directly the recurrent needs of the new projects.[7]

On the other hand, the spending agencies are to be blamed in one main respect. That is, they are disorganized in as far as the budget function is concerned. In this respect reference is being made to the absence of a unit or section in the Ministry or region that deals with budget issues throughout the year. In all the Ministries and regions I visited, it was only the Ministries of Finance (Treasury) and Health which had sections dealing with the budget. Besides, these two had a member of staff who was trained in finance and/or accounting who was competent enough to handle the budget. In the other Ministries/regions there were no regular staff assigned to deal with

budget matters. Some personnel to deal with the budget were mobilized during the budget preparation season. In other cases, as reflected below, even some administrative staff were made responsible for preparing the budget. The most common practice was for the Accountants to take up the budget responsibility during the budget preparation season.

MINISTRY/REGION	STATUS OF OFFICER INCHARGE OF THE BUDGET	ANY FORMAL TRAINING IN ACCOUNTING/FINANCE
Arusha Region	Regional Accountant	Yes
Kilimanjaro Region	Regional Accountant	Yes
Kagera Region	Regional Administrative officer	Not clearly pointed out
Coast Region	Not mentioned clearly	N/A
Ministry of Agriculture	Chief Accountant	Yes
Ministry of Water, Energy & Minerals	Director of Manpower, Development & Administration	No
Ministry of Industries & Trade	Chief Accountant	Yes
Ministry of Communication & Works	Director of Manpower, Development & Administration	No
Ministry of Lands & Natural Resources	Manpower Management Officer	No

Even where accounting heads took responsibility for preparing the budget, the pressure of other accounting duties meant that less time was spent on the budget preparation function. Much worse could even

be said of the administrative officers who were put in charge of coordinating budgeting. Lack of proper training in finance is itself a big obstacle towards appreciation of the ground work that has to be done to produce reliable estimates. The case of the Ministry of Communication and Works could help to demonstrate the point of poor budget management. The administrative officer[8] who was in charge of preparing the estimates pointed out during the interview that estimates prepared by the various sections in the Ministry were consolidated and forwarded to Treasury without doing any preview at Ministry level. This means that the Ministry was relying on the Treasury review to adjust its draft estimates. Such approach could lead to two situations. First, the Ministry would appear before Treasure review session without much information and policy support of draft estimates presented. Secondly, the draft estimates would appear heavily padded to the Treasury officials which could lead to severe cuts. Consequently, the estimates preparation is turned into an unrealistic, and incomprehensible exercise.

The untimely and improper use of the ceilings coupled with disorganized regions and Ministries have in general led to a situation where expenditure forecasts are not prepared in any systematic manner. Various approaches have therefore been used to prepare the forecasts. Some agencies use trend extrapolation to forecast their expenditures, while others use a combination of trend, standard cost rates for certain expenditure items, and some percentage to cover price changes and protect against cuts. The use of trend extra-polative methods which take into account: the prior year expenditure; the current period's first six months performance; and expectations for the

remaining six months in the current period, is common among the Ministries and the regions. This serves as a quickway of preparing their forecasts due to time constraint, and secondly, as a way of ensuring that what they requested would not fall below the expected actual expenditure for the current period. As regards using standard cost rates, this approach was expected to be more common among the regions than the Ministries. Such rates were expected to be used in most of the common services run by the regions. For example, the regions are responsible for financial administration of health, education, (schools) water supply and other social services, and road maintenance etc. In order to maintain equal service standards throughout the country, they are expected to estimate their expenditure using rates worked out by Ministries which have a responsibility on policies for such services. For example, the rates for determining the expenditure for running hospitals, dispensaries and clinics in the regions would be those proposed by the Ministry of Health, while those for education expense, would be proposed by the Ministry of Education. For maintenance, the regions would apply rates proposed by the Ministry of Communication and Works. The latter would include rates for roads, buildings and motor vehicles etc. Although the regions are supposed to use the rates, however, there have been some problems too. These problems are caused by the 'ceilings' set by Treasury which do not allow an expression of the real needs of spending agencies. At national level the 'ceilings' are of course important because they try to make expenditure stay within the realm of financial possibility.9 And in order to accommodate the ever-increasing prices of goods and services, Treasury through its circular

No Is advises the Accounting Officers to cut down on the volume of goods and services ofered.[10] However, the failure by Treasury to provide for the real needs of the spending agencies has forced the latter to adopt less systematic and very arbitrary methods in forecasting their expenditure. Even the standard cost rates are ignored because the requests are not granted along such lines. For example, in the case of Coast Region, they indicated that they provide for an increase of 25% over prior year's expenditure, together with inflating some items so as to ensure that they get much of what they need if some cuttings are made on their requests. On the whole, the regions appeared to be quite bitter about the way the budget preparation is handled because, the time spent on preparing the forecasts is not rewarded by the budget examiners who tend to insist on 'ceiling' amounts. Their case is an unfortunate one because they do not meet the Treasury budget scrutinizers directly. The regional estimates are normally scrutinized by the Prime Ministers Office with a Treasury official in attendance. Since there are twenty regions involved, review approach has been one of insisting on realigning the draft estimates with the ceiling amounts provided by the Treasury. As far as the Ministries are concerned, they discuss their estimates directly with Treasury, and if they have convincing arguments then they have requests above the ceiling amounts approved.[11] On the other hand, most spending agencies (Ministries and regions) appear to have some consolation on supplementary budget. If the amount allocated is considered inadequate, then the Accounting officer involved is supposed to prepare either a supplementary - or - reallocation request. The latter is the only procedure available for

dealing with shortfalls in allocations. The topic of supplementary estimates is dealt with in section IV below.

In short, the evidence available indicates that budget preparation is far from being systematic. The Treasury's ceilings are released too late to be an effective guide to those preparing the expenditure forecasts. Sometimes draft estimates prepared using some reliable criteria are rendered useless because they have to be trimmed down to tally with the ceiling amounts. Consequently, some spending agencies have decided to present expenditure requests which are heavily padded to protect themselves against the cuttings. Likewise, such a haphazard way of preparing the estimates makes it impossible for the government to have a clear picture of what real public expenditure ought to be. Needless to mention, the expenditure programmes would deviate from the governments' policy objectives, thus making it difficult to achieve a control of the economy.

IV A STUDY OF SUPPLEMENTARY BUDGETS

The main budget is approved by the Parliament in mid-June of every year. Subsequent Parliamentary Authorisations after the beginning of the year and before the end of year are termed supplementary estimates. The reasons for having such supplementary estimates will be discussed later, but first we look at their size and trend.

(a) Magnitude of Supplementary budget in relation to aggregate recurrent budget.

The Supplementary estimates being discussed below are those of recurrent expenditure nature. Table 10:5 below shows the magnitude of the Supplementary estimates in absolute terms and also as a ratio of actual recurrent expenditure. The share of Supplementary Estimates in total recurrent expenditure has remained between 0 and 11%. In the absence of a standard to relate these ratios to, it is not easy to conclude whether the supplementary estimates play a significant role or not. Nevertheless, the range of 0 to 11% does not appear to be too excessive. To a large extent the overall spending has been tied to the original approval. This appears to refute, in the Tanzanian case, the idea of "repetitive budgeting" which has been identified mainly with developing countries by authors such as Caiden and Wildavsky.[12] In fact the years which show exceptionally high ratios such as 1978/79 and 1981/82, had unusual occurences which required additional funding. In 1978/79 the country was drawn into a war with Uganda and additional resources had to be voted for defence purposes.[13] In 1981/82 the government had to request an additional vote to meet

salary increases to all government employees announced in July 1981.[14]

TABLE 10:5 SUPPLEMENTARY ESTIMATES OF RECURRENT EXPENDITURE NATURE

Year	Amount of of Supplementary Estimates (Tsh. in millions)	Supplementary Est. as a%tage of actual Recurrent Expenditure	Date passed in Parliament
1969/70	84.3	5.5	March & June 1970
1970/71	74.5	4.6	April & June 1971
1971/72	45.0	2.8	Jan & June 1972
1972/73	128.1	6.1	Feb & June 1973
1973/74	183.5	6.4	Nov 1973,Mar.1974
1974/75	302.8	6.9	March 1975
1975/76	0.3	0.01	March 1976
1976/77	216.9	4.6	Jan 1977
1977/78	192.4	3.5	Oct 1977 & Feb, May & June 1978
1978/79	892.1	10.8	Jan & June 1979
1979/80	79.6	0.9	April & June 1981
1980/81	0	0	April 1981
1981/82	1,200.9	9.1	April & June 1982
1982/83	284.0	1.9	June 1983

Source: Acts and Bills of the various years involved (United Republic of Tanzania).

There is no clear explanation on why the Government has not resorted to endless supplementary estimates. Nevertheless, one is tempted to suspect that the past practice was a continuation of the system in use during the colonial period (ie prior to 1961), and secondly, the fact that the Government adopted a laxe policy on deficit financing (ie. bank borrowing), as discussed further in chapter 12 below, precluded the necessity for having supplementary estimates whenever need for additional funds arose.

In order to know the trend pattern of the supplementary estimates, some trend analysis was carried out, which involved regressing the estimates against time. This regression was done for both the absolute amounts and the ratios appearing in table 10:5 above. Equation (14) is for the absolute amounts, while equation (15) below is for the ratios.

$$S_1 = -105.7 + 38.83\ (T_1) \qquad R^2 = 0.22 \qquad (14)$$
$$(-0.47) \qquad (1.8)$$

$$S_2 = 0.0533 - 0.000902\ (T_1) \qquad R^2 = .01 \qquad (15)$$
$$(2.33) \qquad (-0.406)$$

(S_1 is the amount of supplementary estimates, T_1 is trend, S_2 is the ratio of supplementary estimates to actual recurrent expenditure, and the figures in parentheses are the t-ratios,)

In looking at the strength of the constants and coefficients on trend using t-ratios which are tested at a 5% significance level, they apear

to be quite weak in both equations. The correlation coefficients (R^2) are also very low indicating that the equations are a bad fit. The weak parameters notwithstanding, in equation (14) we can still draw the conclusion that the supplementary estimates have had an upward trend given the positive coefficient on the trend. This is expected because one would expect the value of supplementary estimates to increase with the increase in size of the recurrent budget as a whole. For equation (15), the supplementary estimates in relative terms have shown a decline; this being evidenced by the negative coefficient on the trend.

The supplementary estimates do not appear to bear any strong relationship with the actual recurrent expenditure. As can be seen from equation (16) below, the association between the two as supported by the correlation coefficient ($R^2 = 0.27$) is quite weak. However, the coefficient on the recurrent expenditure variable is significant (supported by the significant value of t-ratio tested at the 5% significance level) and its positive sign indicates that the supplementary estimates have moved in the same direction with the recurrent expenditure.

$$S = \underset{(0.86)}{12.42} + \underset{(2.12)}{0.042(R)} \qquad R^2 = 0.27 \qquad (16)$$

(S stands for Supplementary estimates, R is the actual recurrent expenditure, while the figures in parenthesis are the t-ratios).

(b) Evaluation of factors leading to setting up of the Supplementary budget.

For developing countries, the uncertainty that exists over revenue mobilization compels the Treasury to limit the expenditure in relation to available revenues. The use of the ceiling is part of the effort to ensure that agency requests are pruned in advance to match expected revenues. Consequently, when the ceilings are observed, some spending agencies find themselves being allocated much less funds than what they need. In Section III above the point of agencies looking forward to satisfy a part of their needs through the supplementary estimates was raised. But in view of presentation in table 10-5 above, the supplementary estimates have been limited. Why? For the Treasury to organise a supplementary estimates budget would depend on the availability of surplus revenues. Although revenue targets in most years have been exceeded (see Chpt. 8), however, such excesses were infact outdone by the increases in recurrent expenditure. The latter is discernible from the recurrent budget deficit experienced, especially after 1978.[15] Therefore, the low levels of revenues preclude the authorization of additional expenditure during the supplementary estimate budget.

Another factor that restricts the use of supplementary estimates is the existence of a proviso in the financial regulations which requires the applicant to state why the need for extra provision cannot be resolved by way of reallocation within the Ministerial or Regional vote concerned.[16] This implies that unused codes within a Vote can be used to satisfy arising needs by an Accounting officer without seeking virement approval from Treasury. Sometimes funds are

moved between Votes (ie. inter Ministerial/Regional transfers). The authority to transfer funds between the votes lies with Treasury which would actually raise reallocation warrants to signify the transfer.[17] Other funds which can be transferred by Treasury without first seeking parliamentary authority in form of supplementary provision, is the civil contingency fund. The fund is established in order that "payments for urgent services, the need for which could not have been foreseen and provided for, are not held up pending the approval of Parliament for the necessary supplementary provision."[18]

In scrutinizing some of the reallocation warrants which could be obtained from Treasury it became apparent that a substantial amount is reallocated by Treasury. Table 10:6 below helps to exemplify the point.

TABLE 10:6 REALLOCATION OF FUNDS BETWEEN VOTES THROUGH REALLOCATION WARRANTS.

Year	Reallocation (Tsh. in millions)	Reallocations as a %tage of Actual Recurrent Expenditure
1980/81	1,244.3	12.3
1981/82	656.0	5.0
1982/83	615.1	4.1
1983/84	1,348.4	7.4
1984/85	2,543.0	14.0*

* The estimated recurrent expenditure has been used in place of actual expenditure.

Source: Adapted from Reallocation Warrants of respective years.

A comparison of the above reallocations with supplementary estimates ratios presented in table 10:5 above shows that sometimes the funds reallocated by Treasury do exceed what is allocated by Parliament through supplementary provision. For example, in 1980/81, while there were no supplementary estimates, reallocated funds amounted to 12.3% of actual recurrent expenditure.

It is now clear that those additional requests which cannot be settled through reallocations are the ones which receive Parliamentary Supplementary-provision. The priority for Supplementary alocations appear to lie with non-development oriented services touching sensitive areas like defence, police, prisons etc. To illustrate this, I have listed the reasons for granting the supplementary funds of T.sh. 284.0 mill. in the 1982/83 period which appeared in table 10:5 above. The breakdown and the explanations appear in Table 10:7 below.

TABLE 10-7: THE DISTRIBUTION OF SUPPLEMENTARY ALLOCATIONS FOR THE YEAR 1982/83.

Ministry or Region Involved	Amount Allocated (Million Tsh).
(1) Defence	133.3
Nature of expenses	
To meet expenses such as transport and travelling, ration (food supplies), petrol office stationery, spares, vehicle maintenance and personal emoluments for "Trade Allowance".	
(2) National Service	20.4
Nature of expenses.	

To meet recruitment costs for 4000 volunteer recruits, payments for "Trade Allowance" and to cover price increase on various items.

(3) Home Affairs 130.2

Nature of expenses.

(i) To meet transport costs for employees while on duty,

(ii) To cover costs for "Economic saboteurs" operation including special tribunals costs,

(iii) For purchasing new vehicles for the departments of Police, Prisons and Imigration,

(iv) To cover price increases on office stationery, spare parts and petrol.

(v) To pay for salaries of new police recruits - 1266 in number.

(vi) To meet extra costs on rising number of prison inmates

(vii) To meet extra costs on increased number of students taking driving lessons inclusive of food supplies, petrol, spare parts, transports and vehicle maintenance.

Total 283.9

Source: The United Republic of Tanzania, Supplementary Estimates of Expenditure, Dar-es-Salaam, Government Printer.

V DIAGNOSIS OF DEVIATIONS IN FORECASTS AND SCOPE FOR REDUCING THE DISCREPANCIES

The discussion in section III above in respect of the factors used in forecasting expenditure, clearly indicated that at both national level (Treasury) and spending agency level (Ministries and Regions) there were no explicit factors used in the projection of expenditures. Agencies involved in the budget-making appeared to have been working under extreme time pressure, thus failing to take advantage of forecasting techniques which could produce more reliable results. As pointed out by Wright et al, because of the rush involved in the preparation of the budget the "result is that too often the budget expenditure forecasts will be "guesstimates" based on partially informed judgement"[19] Whatever forecasting techniques have been used in Tanzania, they can best be described as judgemental techniques. To use the words of Wright et.al, "the method(s) make use of historical data, but it fails to use data in systematic mathematical projections.[20] In the case of the spending agencies, it became quite obvious that the forecasts had been made with a minimum of hard data base.

Where quantitative techniques are lacking, it is not possible to give a systematic analysis of the variations between the forecasts and the outturns. In the Tanzania situation, besides pointing out that the judgemental methods have been used, we also need to add that the Treasury's intention has been one of having a fixed budget. There are three grounds to support this. First, the practice of budget management does not point to any circumstances where the expenditure

budget was linked (pegged) to any exogenous variable, whether revenues, or GNP or inflation etc. Neither is there evidence showing expenditure being adjusted to reflect the actual position of such exogenous variable(s). Without giving any supporting work, the Treasury official interviewed said that such exogenous factors are used to set the expenditure budget initially, presumably the ceilings. But even the latter (ceilings) are not enforced as has already been pointed above where approved expenditure was seen to have exceeded them by a significant margin. Secondly, the budget is set in fixed prices, without paying attention to volume or quanta of goods and services to be provided. This implies that further changes in the prices ought to be absorbed by the spending agencies by reducing the quanta of goods and services.[21] Thirdly, the budget does not carry any items which cannot be put under control by using fixed (ceiling) allocations. In this case reference is made to transfer payment items, such as social benefit allowances which, in practice, would be variable depending on the entry and exit of those entitled and not entitled respectively. The country does not operate such schemes. The second form of transfers which could make the budget vary are the subsidies given to some national institutions for, say, price adjustments, or loss recovery etc. For the years that the aggregate figures of such transfers are available (see table 10:8 below), the pattern that is discernible (as a ratio of total recurrent expenditure) is one of a decline, from 18.4% in 1971/72 to 5.5% in 1980/81. When this trend is compared with the upward trend in the prediction errors (see section II.p346 above), it could be concluded that the transfers have not been influencing significantly the

unpredictability of the recurrent expenditures. The inverse relationship between the prediction errors and the subsidies help to support the point of the budget being fixed.

TABLE 10:8 SUBSIDIES OF A CURRENT EXPENDITURE NATURE

Period	Subsidy* (Shs in millions	As perentage of Precurrent Expenditure
1971/72	293	18.4
1972/73	399	19.1
1973/74	370	12.9
1974/75	758	17.3
1975/76	448	10.4
1976/77	550	10.5
1977/78	646	11.0
1978/79	434	4.9
1979/80	450	6.0
1980/81	518	5.5

Note: * - The amount excludes transfers abroad. However, it is not clear as to what categories of items the amount was transferred for

Source: IMF, Government Finance Statistics Yearbook 1985, Vol IX - Table C Tanzania.

The types of subsidies granted has varied from year to year. As regards consumption subsidies on goods, it is pointed out by Green et.al that the government is generally opposed to that. For example,

after 1980 it is only maizemeal that was receiving subsidy, and consumer subsidies amounted to 1.5% of the budget. On the other hand, the government has been in favour of producer (ie excess transport and handling cost) subsidies which in some years has reached about 10% of the recurrent budget.[22] Since the yearly statistics are not readily available, it is difficult to assess their particular impact on the predictions. The other type of subsidy whose forecasted amount could be determined quite accurately is that relating to compensations to various corporations for losses incurred. For example, during the 1981/82 some amounts were paid to National Bank of Commerce for debts incurred by National Milling Corporation. Also some amount was paid to Tanzania Railway Corporation to help it meet some debt obligations incurred under the East African Community. Some other amounts were paid to Air Tanzania Corporation to assist in ameliorating some of its financial difficulties.[23] Thus, most of the subsidies paid have a fixed costs element in them, although some, especially producer subsidies, would vary with activity in the period.

In view of the points raised above, namely, the use of judgemental forecasting, the absence of any exogenous variable(s) used explicitly; and the fixed nature of the budget, the deviations observed in aggregate recurrent expenditure can therefore be attributed to one possible cause. This is poor financial management and control (or administrative supervision) on funds disbursement. In picking up the latter reason, it is tantamount to stating that the errors observed in section II above arose because the spending agencies were not prudent and budget-limit conscious to avoid overspending. The corollary of the latter is that the financial

management and control systems, such as accounting, auditing, reporting and monitoring, especially those in the spending and authorizing agencies, have been inept and inefficient to deal with the task. There is enough evidence to corroborate the latter point.

As far as government accounting systems are concerned, their position is appalling. First, the government has been having staff problems of qualified accountants. As reported in the budget speech of 1976/77, the Minister of Finance and Planning clearly indicated how the problem had arisen. He pointed out that following the decentralization of accounts which followed the Government decentralization of 1972, it became necessary to spread the few accountants the Ministry had to regions, and this measure had caused a relative deterioration of accounting in some Ministries and regions.[24] The problem of accountants has continued to deteriorate inspite of efforts to train more junior staff, mainly because of the expansion of activities in both public and private sectors which have been recruiting their accounting staff from the already strained labour market. The understaffing in the accounting departments is duly reflected in the state of government accounts. Between 1972/73 and 1975/76, the accounts were in such a mess that the Ministry of Finance and Planning decided that the Accountant General should concentrate on accounts beginning with 1975/76 hoping to form a more solid base for subsequent accounting years, and also use such accounts to rectify those accounts of the previous years.[25] The same accounting problems have continued to be reported in subsequent budget speeches.[26] It should also be stressed here that the problems of accounting are further constrained by lack of supportive facilities,

especially machines. Before 1974, all accounting officers had to prepare their accounts using the computer kept at the Treasury. There were serious access problems, especially for the regions which were located away from the computer centre in Dar-es-Salaam. Although some desk calculators were introduced beginning of 1974, the lack of spares and replacements have continued to keep the problem alive, thus hampering the preparation of accounts and reporting.[27]

When the accounting systems do not work properly, the effectiveness of the other systems, namely auditing, reporting and monitoring suffer also. As far as reporting is concerned, the spending agencies are supposed to prepare four types of reports for Treasury's use.[28] The first report is the 'Flash Report' which is prepared monthly, and is intended to show the month's incurred expenditure. The purpose of the report is to enable the Treasury monitor government liquidity, plan cash flows, and also plan short term borrowing. Besides, the reports help the Treasury to keep track of expenditure performance of all votes. The second report is the Quarterly progress report which is intended to show both financial and physical performance for each expenditure item. In fact the second Quarter (December) reports also become the basis for the mid-year review. The third report is the mid-year report which reports on expenditure performance for half the year up to November, and gives projected expenditure for December and for the remaining half year. This report is used for two purposes. The first one is to facilitate the preparation of financial adjustment measures to be taken, and secondly, is to form the basis for projecting preliminary estimates of the following year. The fourth report is the 'Fourth Quarter Progress

Report' which is intended to show the cumulative expenditure to the end of the year, and compares performance with budget plans. In practice, as revealed by the officer interviewed (see note 5 below), all of these reports are submitted to the Treasury by the spending agencies. In fact the quarterly financial releases are made on condition that the reports have been submitted. But these reports are submitted to the Treasury without being authenticated. Since we are interested in the accuracy of the reports, the fact that the Treasury has been complaining about the appalling state of the accounts as pointed out above, clearly indicates that such reports are fraught with errors.[29] And because the accounting officers (including the Accountants) are not held responsible and reprimanded if there are major discrepancies observed in relation to the subsequent audited reports, such laxity on the part of Treasury continues to encourage fraudulent reporting. If the Treasury were to be very strict with say, the accuracy of the flash reports, there would not be any reason why the other accumulative reports should not be accurate. But false reports have meant that the projections made which are based on them are also faulty. Moreover, although such reports are prepared on schedule, they do not, however, contribute towards timely preparations of the accounts. Since the accounts are submitted late for auditing, errors which could have been averted through timely audits are discovered when it it rather too late. The weaknesses in the accounting systems have therefore led to expenditure being incurred over the authorized levels.[30]

The paucity in controls is well demonstrated by the late approval by parliament of excess expenditure incurred by spending

agencies. This appears in table 10:9 below. Column I and 4 are the ones of interest showing the year of spending and when approval in retrospect is made by Parliament. These excess expenditures were discovered after the audit were completed. Worth noting also is the deteriorating situation after 1971/72 - when decentralization of government took place.

TABLE10:9. EXCESS EXPENDITURE APPROVED BY PARLIAMENT IN RETROSPECT

C.1	C.2	C.3	C.4	
Year	Amount (Tsh.)	% of Recurrent Expenditure	Date passed by Parliament	Time Diff. (C.4-C.6)
1968/69	33.8	2.8	March 1970	1
1969/70	33.4	2.2	June 1971	1
1970/71	39.3	2.4	June 1972	1
1971/72	23.2	1.5	June 1973	1
1972/73	70.3	3.1	March 1978	5
1973/74	111.6	3.9	March 1978	4
1974/75	0.1)	7.9	June 1983	8
	343.6)		July 1978	3
1975/76	87.7	2.0	April 1981	5
1976/77	73.2	1.6	April 1981	4
1977/78	103.0	1.9	October 1981	3
1978/79	864.0	10.4	27.4.1982	3
1979/80	220.4	2.4	June 1983	3
1980/81	657.4	6.5	April 1984	3

Source: Acts and Bills of the various years involved (United Republic of Tanzania.)

Besides diagnosing the errors from the systems' operation point of view, the errors were also checked for their association with the past increases in development expenditure using regression analysis. The model used was of the form : $R_t = a + bD_{t-1}$ whereby Rt is the recurrent expenditure error in time-t and D_{t-1} is the developoment expenditure change in time t-1. The test was done for various Ministries and the equations appear in table 10-10 below.

TABLE 10:10: REGRESSION RESULTS OF RECURRENT EXPENDITURE OVERSHOOTS IN RELATION TO DEVELOPMENT EXPENDITURE.

	Equation	R^2	Number
MINISTRY OF HEALTH :	$R_t = 5.965 + 0.5036\ D_{t-1}$ (2.5) (3.14)	0.431	(1)
COMMUNICATION :	$R_t = 2.1956 - 0.1271\ D_{t-1}$ (.38) (-2.03)	0.24	(2)
AGRICULTURE:	$R_t = 5.746 + 0.132\ D_{t-1}$ (0.84) (1.94)	0.225	(3)
FINANCE:	$R_t = -198.44 + 1.625\ D_{t-1}$ (-3.08) (1.92)	0.22	(4)
HOME AFFAIRS :	$R_t = 35.97 + 1.228\ D_{t-1}$ (3.06) (1.87)	0.211	(5)
LANDS:	$R_t = 0.113 - 0.2245\ D_{t-1}$ (0.1458)(-0.448)	0.15	(6)
EDUCATION:	$R_t = 3.79 + 0.1339\ D_{t-1}$ (0.13) (1.41)	0.13	(7)
INDUSTRY :	$R_t = 0.9438 + 0.003896\ D_{t-1}$ (-0.48) (1.23)	0.15	(8)

(The figures in parentheses are t-ratios.)

As a whole the results do not point to any significant relationship between the recurrent expenditure overshoots (errors) and the increase in development expenditure. Judged on the basis of the correlation coefficient, it is only equation (1), ie the Ministry of Health, which showed a modestly significant relationship as depicted by the $R^2 = 0.431$. Moreover, the t-values for the coefficients were also significant, (tested at the 5% level of significance). The results obtained for the Ministry of Health could be expected because of its development expenditure's tendency to engender a high recurrent costs needs. In view of the fact that the determination of the forecasts does not provide fully for the recurrent costs, it would be expected that the pressure for higher spending would eventually lead to the approved expenditure being exceeded. (The topic of recurrent costs implication of development expenditure has been discussed in chapter 13 below). For the other Ministries, the correlation coefficients are very low, implying a rather insignificant association. Moreover, the t-values for the coefficients are mostly insignificant (tested at the 5% level of significance), except in the case of Ministry of Communication and Works. However, in the latter case (equation (2) it is interesting to note that the sign on the coefficient is negative which demonstrates the point that development expenditure on communication and works does not generate immediately a higher need for recurrent costs (implying it has a low recurrent coefficient) as was the case for the Ministry of Health. To summarize, there is not much empirical support to suggest that the recurrent expenditure errors were caused by the increase on development expenditure.

In view of the latter and the other arguments presented above regarding accounting systems, manpower shortages, the fixed nature of the budget etc., I tend to support the hypothesis that the errors observed above have their roots in the poor management of the budget. Therefore, in lieu of the latter, the propositions made below for reducing such errors hinge considerably on budgetary controls which require some reforms. The corrective measures to be taken are listed below.

(a) First, senior officers in spending agencies who are responsible for overseeing the implementation of expenditure programmes need to be induced to the whole concept of budgeting. In various Budget speeches (ie 1979/80 p.19, 1976/77 pp.16-17 etc) and in various Treasury Circular No.I (ie of 1982 p.5; of 1983 p.4) there are complaints by Treasury about irresponsible Accounting officers (Warrant Holders) who do not get involved either in the preparation of the forecasts or in proper spending supervision. The latter could be due to a lack of awareness of the importance of the budget,and their direct personal responsibility. It would not be surprising to find that most of the senior accounting officers look down on the financial function and relegate it to the Accountants.

(b) The organization of budgeting in each Ministry and region should be placed under a separate section, and should not be left diffused in accounting or administration sections. Specialized units could coordinate the finance management situation more effectively than happens now. The case of the Ministry of Health already discussed earlier is a clear example of how a separate section could function effectly. Follow up (montoring) of the budget can also be achieved if

there is a staff attached to the budget work all year round.

(c) There is an urgent need for the Treasury to restore the confidence of the spending agencies through proper administration of the ceilings. The problems of late circulars which convey the ceilings and other guidelines have already been discussed above. In this respect the Treasury should try to observe the December/January deadline for releasing the ceilings. Likewise, it should stick to its ceilings, and if circumstances change for the better or worse, Treasury can invite requests for supplementary estimates or cuts respectively.

(d) The Treasury should exert greater effort to dispel the miscontrued concept of "a government cheque never bounces" from the minds of the Accounting Officers and Accountants who often allow bank overdrawing. Equally, bank Managers who allow the overdrawings should have their credentials questioned.[31]

(e) The government has to operate discriminating incentive schemes for the scarce professions such as accounting so as to be able to achieve high work efficiency, retain its employees, and get skilled people to recruit. In every budget session there is a reference to poor accounts, lack of properly trained accountants, etc. and yet the Government is the biggest trainer. Accountants who see their counterparts in companies getting tea, free meals and company car would be lured away easily. Salaries of Accountants could be pegged to those paid in the public corporations and private companies. In short, although it can be insisted that more training should be done, the underlying problems of low efficiency and retention have to be tackled as well.

(f) The Parliament should press the Government to discipline those officers who cannot keep their spending within the budgeted levels. Maybe the government should consider dismissing from duty the Accounting officers who are found guilty of frequent excess spending.
(g) The Parliament should impose a legal constraint that would compel the Treasury to balance its recurrent budget. The current practice does not show that recurrent expenditure is fully integrated with recurrent revenues. A compulsory interface of expenditure and revenue would make it mandatory for the Treasury to review and adjust the expenditure budget to tie-up with revenue mobilization. This could imply having more frequent supplementary budget approvals which would consider both increments and cuts to the previous approvals.
(h) The Treasury ought to initiate (compulsorily) research work on expenditure. During the interview it became apparent that there had been a paucity of research on the budget. Not even a single research paper could be provided by Treasury. Lack of research kept Treasury in the dark about its own work and also about what the agencies were doing.
(i) The Treasury should consider installation of microcomputers in every Ministry. The latter could facilitate data accumulation, analysis, and reporting. Some lessons could be drawn from the case of Ministries of Agriculture, and Livestock Development in Kenya where microcomputers helped to reduce problems of budgeting and financial management.[32]

(j) The ceilings should focus at policy priorities. The Treasury Circulars do not spell out the priority areas for each Ministry and Region in support of the ceiling figures passed down. The implication

of a failure to set priorities were that, the Treasury could not demand from the spending agencies to defend their draft estimates on policy grounds. To set out priorities would inevitably require more time than is feasible under the present budget cycle, because some programmes being funded hitherto would have to be evaluated in terms of their satisfying the set priority objectives. Moreover, the Treasury would be required to hold more preliminary discussions with spending agencies so that the priority guidelines are set based on sound ground.

(k) To underscore the point raised in (j) above, the Treasury should develop special (standard) rates for determining expenditure, which have to be adhered to by itself and the spending agencies, which should cover sensitive areas such as education, health, water supply, road and building maintenance, equipment and plant maintenance etc. Those preparing the forecasts would then be required to apply the rates to either the level of past investment, or any other quantifiable measures such as number of students, number of hospital beds etc. (This topic has been discussed further in chapter 13 below concerning recurrent costs problems).

VI SUMMARY

The chapter has analysed in detail the forecasting of recurrent expenditure in Tanzania. The focus was on the predictor variables which are used in generating such forecasts, and the extent to which misspecification of such variables caused the actual expenditure to vary from the forecasts. Indeed the hypothesis that was to be tested in this chapter was formulated to cover the latter. Some interesting results were observed.

Foremost, the analysis showed that there had been some variations between the forecasts and the outturns. Such variations were more pronounced in the more recent years, beginning with 1972/73, and they pointed to a tendency of under-predictions.

In examining the factors which are used in forecasting expenditure, it was observed that less substantial factors had been used. Even the claims of using trend extrapolation raised by Treasury and the spending agencies could not be substantiated. Some agencies, especially regions, had also raised some claims of using some standard cost rates which are passed down by Ministries responsible for overseeing certain social policy matters. Such standard rates were not used effectively because budget requests were not accepted by the Treasury on needs basis but on resource availability basis. In the absence of explicit factors used in forecasting, the projecting methods used appeared to be of judgemental nature, which were applied in very erratic manner.

Besides using judgemental techniques to prepare the forecasts the issue of Treasury adopting a 'fixed budget' was raised also. The expenditure budget was not expected to vary. In view of the latter,

it was argued that the perceptible forecasting errors had resulted from poor management and control of the budget. This new revelation therefore posed some problems of confirming the hypothesis. The hypothesis could be confirmed if it were to be interpreted in terms of lack of controls which are essential in keeping the actual expenditures within the fixed budget limits.

Another important issue that was raised in the chapter was that of 'ceilings' which are set by Treasury. The contribution of ceilings was argued to be less effective for two reasons. First, they reached the spending agencies very late in which case they could not be used effectively, and secondly, they were not binding. The point of non-sticking became clear when some years' 'ceilings' were seen to have been surpassed by the approved expenditures by big margins. Failure to stick to the ceilings raised some doubts, especially on their role in effecting changes in the national economy. One could rightly presume that when the ceilings are set they have in purpose a fiscal policy objective. Therefore, by deviating from such preconceived levels it would imply a disruption of the intended economic adjustment-objective. Moreover, further doubts are raised when the ceilings are perceived as having been set without using any systematic quantitative techniques. In view of the latter, one won't hesitate to take sides with Wright et al. on their argument that for a poor country, "the target is to provide accurate estimate of expenditure without necessarily thinking of fiscal policy use to stimulate or damp down the national economy."[33]

Finally, some measures to take to reduce the spending budget discrepancies have been suggested. Such corrective measures are

directed towards budget management improvement. The main emphasis was placed on measures such as raising the awareness and apprehension of those dealing with budget; initiating some improvement on the administration of ceilings; increasing perquisites on accounting staff for the purpose of increasing efficiency and staff retention; urging the banks holding spending agency accounts to be more vigilant and strict on overdrawing; for government to do more frequent budget reviews which would eventually integrate expenditure forecasting with revenue forecast; considering installation of micro-computers to facilitate data compilation and processing; and finally for Treasury to adopt a system of incorporating priorities when setting the ceilings.

NOTES

1. About 10 ministries and four regions were covered in detail in the field research.
2. Ministry of Finance and Ministry of Planning and Economic Affairs (Treasury/Dev Plan (1984) A Manual for the Budget Process in Tanzania, p.27 Dar-es-salaam.
3. Caiden N. and Wildavsky A.(1974). Planning and Budgeting in Poor Countries p.105 London etc. John Wiley & Sons.
4. United Republic of Tanzania, "Mwongozo Kuhusu Matayarisho ya Matumizi ya Kawaida ya 1982/83 na 1983/84, Treasury Circular No.1 of 1982, Dar-es-salaam, Ministry of Finance. Also other circulars point out the same message.
5. The interview was with a senior staff in the office of the Commissioner for Expenditure Budget.
6. Statements quoted from the Finance Officer who was in charge of the finance section in the Ministry of Health. The statements were communicated verbally during the interview.
7. United Republic of Tanzania op. cit.
   See: Treasury Circular No. 1 of 1982 p.5.
   Treasury Circular No 1 of 1983 p.4.
8. The Division of Labour and Manpower Administration coordinates expenditure estimmates preparation. There was no officer working on the budget throughout the year. After April when the draft estimates would have been agreed with Treasury the officers working on the budget return to their regular administrative duties. Disbursement of the funds is shifted to the Accounts section.

9. Caiden et al. (1974) op.cit. p.104.

10.United Republic of Tanzania op.cit.

See Treasury Circular No.1 of 1982 p.4.

Treasury Circular No.1 of 1983 p.3.

11.(a) Although it is the Prime Minister's Office which scrutinizes regional estimates, some Treasury officials are expected to be in attendance.

(b) A study of one year's accepted requests in relation to ceilings covering all Ministries, departments and regions induicate that the Ministries and departments had an overall allocation slightly higher than that of the regions (11% and 8% above ceilings for Ministries and regions respectively). But a comparison of item (vote) to item basis indicated that some regions got a greater allocation above the ceiling than the Ministry had. This can be discerned from Table 10A-3 Column (9) in Appendix 10. In view of this observation, the generalization of unfair Treasury treatment to regions is baseless.

12.This was discussed briefly in chapter 7

13.Ministry of Finance, Budget Speech 1979/1980, p.17.Dar es Salaam: Government Printers.

NB. The war in Uganda began in Nov. 1978 after the budget for the Fiscal year 1978/79 had been set in July 1978.

14.Salary increases was the major item leading to the high figure. This is as reported in: The United Republic of Tanzania, Supplementary Estimates of expenditure of 1981/82, Dar-es-salaam, Government Printers.

15.The budget deficits are discussed in chapter (12) below. Table 12:2 is most relevant.

16.The United Republic of Tanzania, (1983), Financial orders (part one) 5th ed.p.9, Dar-es-salaam, Published by Authority.

17.Ibid p.10.

Moreoever, the Appropriation acts vest some powers on the Minister of Finance to reallocate funds between votes.

18.Ibid PP.9-10.

19.Toulmin L. and Wright G. "Expenditure forecasting" p.210 in Rabin J. and Lynch T.D. eds (1983). Handbook on Public Budgeting and Financial Management, New York: Marcel Dekker INC.

20.Ibid. p.219.

21.Spending agenices are advised to reduce the volume of goods and services to fall in line with the resources available. See for example Treasury Circular No.1. of 1982 op.cit. p.3.

22.Green R.H. and Singer H. "Sub-Saharan Africa in Depression: The Impact on the Welfare of Children" World Development Vol. 12 No.3 (1984)p. 292.

23.United Republic of Tanzania, Budget Speech 1981/82. p.16.

24.Ministry of Finance and Planning. (1976) Budget Speech 1976/77, p.15, Dar-es-salaam: Government Printers.

25.Ibid p.16.

26.See for example the Budget Speech for 1980/81, p.17. where it is reported that the state of government accounts is deplorable, and efforts being taken include conducting more seminars/workshops for serving accountants (Ministry of Finance (1980) Budget Speech, 1980/81; Dar-es-salaam Government Printers

(Swahili).

27.Ministry of Finance and Planning Budget Speech 1976/77 p.16.

28.Treasury and Dev Plan (1984) op.cit. p.31-2.

29.In most of the budget speeches, the Minister of Finance often expresses his concern over the accuracy of the reports submitted to Treasury. See for example, United Republic of Tanzania, Budget Speechs: 1976/77 pp.15-6, 1978/79 p.21 etc.

30.See for example, Budget Speech, 1979/80 p.18, where it is clearly indicated that expenditures are not kept within authorized amounts because of poor control systems. (Minister of Finance (1979), Budget Speech, 1979/80; Dar-es-salaam, Government Printer (Swahili).

31.Ibid. p.19.

NB. The practice of having the Banks act more strictly against agencies overdrawing started in 1976/77. The Banks were instructed to issue warning to agency involved when drawing from the bank account reached 85% of funds deposited. However,inspite of such early warning system, prudence in spending among some accounting officers wasn't forthcoming. During 1977/78, a year after the system was introduced, it is pointed out that some extra Sh.110 million were spent without authority on recurrent expenditure.

32.Leonard D.K., Cohen J.M, and Pinckney T.C. "Budgeting and Financial Management in Kenya's Agricultural Ministries." Agricultural Administration No. 14 (1983): p.117.

33.Rabin J. and Lynch T.D. op. cit. p.216.

CHAPTER 11

DEVELOPMENT EXPENDITURE FORECASTS - AN EMPIRICAL INVESTIGATION

I. INTRODUCTION:

This chapter examines empirically the forecasting of development expenditure in Tanzania. The analysis will attempt to determine the extent to which the outturns deviate from the forecasts, and then explore the causes of such deviations. The purpose of carrying out the analysis referred to above is to determine the extent to which misspecification of variables used in predicting the development expenditure has contributed to the level of variation between the forecasts and the outturns. Conceptually, this is an attempt to confirm the proposition that: it is the improper setting of the predictor variables which has caused the discrepancies in forecasting. However, implicitly I am endeavouring to confirm the general proposition that inefficiences in budget management have contributed to the present economic crisis.

The analysis will consider both aggregated and disaggregated development expenditure. It would have been appropriate to carry out the analysis on on-going and new projects on a separate basis. However, the presentation of development estimates does not differentiate between the two categories. The reasons for the latter will become clear in further discussions in subsequent sections. However, it suffices to mention that all project programmes which are considered for financing will have been approved in advance by DevPlan, and so it is upon the implementing agency to allocate the

funds allowed under the ceilings procedure among its projects. This might not be the best way to allocate project expenditure. I have raised the issue in the recommendations section in this chapter.

In the case of disaggregated expenditure consideration is along Ministerial basis. For classification purposes, the concept of 'development expenditure' is taken as is used in the Tanzania situation. This implies that it is taken for granted that all the expenditure that falls under this category is really meant for development purposes, which also implies that all the expenditure that is meant for development has been included. The idea behind this definition is to say that development expenditure differs from capital expenditure, the latter not necessarily being focussed towards development. However, as has been noted by Caiden et.al, even if one was to go through all the expenditure, it is not easy to make a distinction between expenditure that is solely for development and that which is not for development. The reason being that it is difficult to specify the contents of economic expansion, that is to define in other words, those goods and services whose increase constitutes a process of economic growth.[1] In view of the latter, it should not be surprising therefore, to see defence capital expenditure etc. being discussed under the concept of 'development expenditure'.

The chapter outline is as follows. Section II examines forecasts in relation to outturns, at both aggregate and disaggregate level, while section II present an evaluation of factors taken into account in projecting development expenditure. Section IV analyses supplementary estimates of development budget nature in terms of size

and their determining factors. Section V present diagnosis of the discrepancies observed between forecasts and the outturns, and also an examination of the possibility of reducing such discrepancies. The final section will present a summary of the discussion.

II FORECASTS IN RELATION TO OUT TURN

(a) Regression of aggregated actual development expenditure on forecasted expenditure.

The forecasting of development expenditure does not appear to be perfect. There has been some significant variations between the outturn and the forecasts. The forecasting errors appear in Table 11:1 below.

The errors appear to be significant in general. In relative terms, they range from 7.4% to 44.6%. The average error is about 22.4%. Though high in value, they however do not appear to reflect a very strong trend pattern. A linear regression analysis of the absolute errors showed that the errors have been declining with time. This is implied from the negative coefficient on the trend variable appearing in equation (1) below.

$$E = 239.68 - 108.8(T) \qquad R^2 = 0.51 \qquad (1)$$
$$(0.86) \quad (-3.8)$$

(E is the absolute error variable, T is the trend, while the figures in parentheses are the T-ratios: At the 5% level of significance while the constant remains insignificant).

Furthermore, when the errors are expressed in percentage and regressed on time, a declining trend is also observable. The negative coefficient on the trend appearing in equation (2) below points to such decline.

TABLE 11:1 FORECASTING ERRORS IN DEVELOPMENT EXPENDITURE

PERIOD	67/68	68/69	69/70	70/71	71/72	72/73	73/74	74/75	75/76	76/77	77/78	78/79	79/80	80/81	81/82	82/83
ERROR %	24.2	44.1	-13.2	-8.8	-25.	-30.7	-21	-24.6	-44.6	-7.4	-23.2	-10.3	-27.9	-32.4	-21.4	-8.6

NOTE: Error - This is the %tage of difference between outturn and forecasts to forecasted expenditure.

Source: Computed from data appearing in Appendix 11: Table 11A-I.

$$E = 0.5113 - 0.23(T) \qquad R^2 = 0.25 \qquad (2)$$
$$(0.5) \quad (-2.18)$$

(E stands for the error ratio, while T stands for Trend. The figures in parentheses are the T-ratios: At the 5% level of significance the coefficient on trend is significant, but the constant is not significant. Moreover, overall the regression is very weak due to the low value of $R^2 = 0.25$)

When the errors are examined for under - or over prediction tendencies, one can observe that in two period 1967/68 - 1968/69, there was underprediction, while in the rest of the fourteen periods, 1969/70 - 1982/83, there were some over-predictions. A further examination of a linear regression function of the outturn in relation to the forecasts, and also of a scatter plot points also to a general tendency to over-predict. Such overprediction tendency can be discerned from equation (3) below where the regression coefficient is just about three fourths of unity (0.74680.)

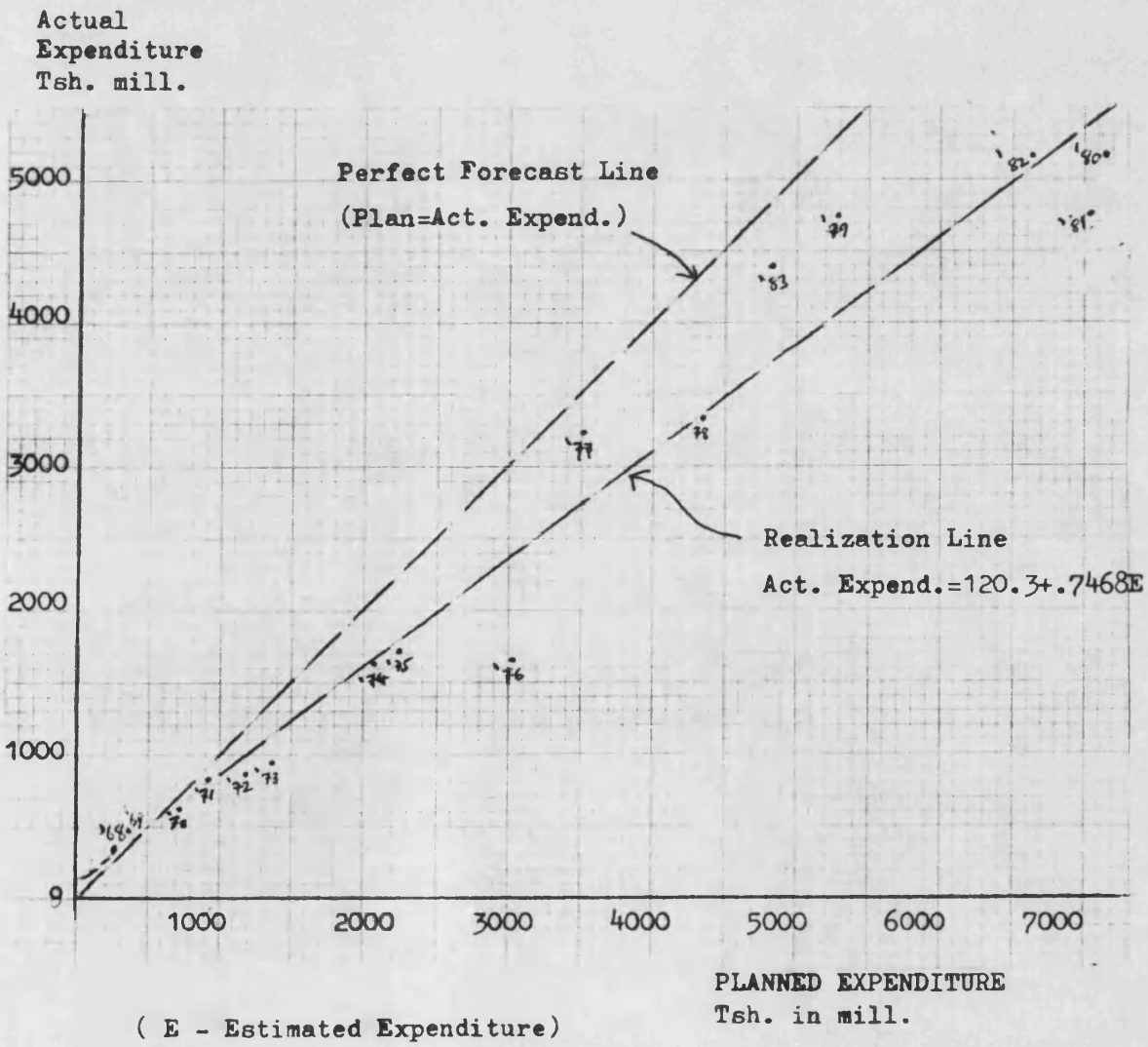
$$A = 120.3 + 0.7468\ (E) \qquad R^2 = 0.957 \qquad (3)$$
$$(0.7) \quad (17.6)$$

(A stands for actual expenditure while E stands foir the forecasted expenditure. The figures in parenthesis are t-ratios. At the 5% level of significance, the coefficient of 0.7468 is significant, while the constant is insignificant.)

From Figure 11:1 below it was also observed that most of the data plots and the forecast equation line lie to the right of the perfect

forecast line which is a clear sign of a tendency to over-predict. Worth noting also from the same figure is the feature that the divergence between the perfect forecast line and the forecasting line has been increasing overtgime, which actualy continues to underline the tendency to over-predict.

FIGURE 11:1. DEVELOPMENT EXPENDITURE FORECASTS AND OUTTURN SCATTER PLOT.



How is this general tendency to over-predict reflected in the disaggregated development expenditure? The analysis appears in the next sub-section.

(b) A linear regression of disaggregated actual development expenditure on disaggregated forecasted expenditure.

An analysis of the Ministerial outturn in relation to the forecasts reveals that the forecasting function is quite out of control. The forecasts appear to have been quite ambitious. The forecasting errors are apparently significant in all cases. The errors for all the Ministries appear in table 11:2 in a summarized form.

TABLE 11:2 Ministerial Error Summary

Ministry of	Average Error(%)	Maximum Error(%)
Information & Tourism	67.8	300.0
Health	50.7	77.5
Finance & Planning	46.6	223.7
Education	40.5	- 81.0
Lands, Settlement	34.7	55.7
Communication & Works	30.8	53.0
Agriculture, Forestry & Wildliffe	30.3	72.6
Defence	27.2	51.0
Industries & Commerce	26.7	88.9
Home Affairs	11.3	50.0

Source: Computed from data appearing in Appendix 11 Table A-2

Implied from these errors is that the Ministries are incapable of utilizing most of the resources allocated to them through the budgetary process. Some of the Ministerial errors, especialy in the case of Ministries of Information and Tourism, Health, Finance and Planning, and Education, as shown in Table 11:2 above, are far greater than the average error of 22.4% for aggregate development expenditure observed in subsection (a) above.

Besides being very significant, the Ministerial errors indicate a tendency to over-predict. These results can easily be discerned from linear regression results of the outturn vis-a-vis the forecasts. These results are recorded in table 11:3 below. In group I we have underpredictions while in group II we have overprediction cases. The strengths of the regression fuctions are confirmed by the high values of R^2, with an exception of the Ministry of Information and Tourism (equation (14)) which has a low value of $R^2 = 0.26$. The coefficients on the forecast variables appear to be significant also given the significant values of the t-values which have been tested at the 5% level of significance. From Table 11:3 below, it can also be observed that equations (5) to (8) have quite low coefficients and this implies a high level of forecasting imperfection. Some of the Ministries involved, such as Health, Finance and Planning, and, Communnications and Works etc. are the ones which had largest average errors recorded in Table 11:2 above.

Table 11:3 Regression results of outturn in relation to forecasts for the Ministries for the period 1967/68 to 1982/83.

Group I: Underpredictions	Equation	R^2	Equation No
Ministry of Home Affairs	A=-3.33+1.087E (-2.3) (32.1)	0.99	(4)
Group 2: Overpredictions:			
Ministry of Health	A= 8.517+0.352E (2.1) (5.6)	0.69	(5)
Ministry of Communication and Works	A=116.92+0.3994E (3.8) (5.5)	0.68	(6)
Ministry of Finance and Planning	A= 10.37+0.495E (0.36) (5.2)	0.66	(7)
Ministry of Lands	A= 8.406+0.544E (1.12) (5.6)	0.97	(8)

Table 11:3 Continue.

Ministry of Foreign Affairs	A= 0.849+0.703E 0.75 (0.96) (6.5)	(9)
Ministry of Education	A= -6.536+0.7083E 0.84 (-0.4) (8.5)	(10)
Ministry of Agriculture	A= -5.224+0.7174E 0.92 (-0.21) (12.97)	(11)
Ministry of Industries and Commerce	A= 15.37+0.742E 0.91 (0.32) (12.3)	(12)
Ministry of Defence	A= 22.5+0.8.65E 0.85 (0.64) (9.0)	(13)
Ministry of Information	A= 0.4718+0.8711E 0.26 (-0.15) (2.2)	(14)

(A stands for the Ministerial expenditure outturn, E stands for the Ministerial forecasts, while the figures in parentheses are the t-ratios.)

A further comparison of the nature of development expenditure errors noted above with those of recurrent expenditure (discussed in chapter 10) points to the following observations. First, while the errors for total development expenditure pointed to a tendency to overpredict, in the case of recurrent expenditure the situation was one of underprediction. Secondly, the development expenditure errors were much larger (average error was 22.4%) compared to those of recurrent expenditure (with average error of 11%. Thirdly, at Ministerial level, for most of the cases there was no distinguishable pattern between the errors of the two categories of expenditure. As revealed by some linear regression functions (table 11-4 below) it was only in the case of Health that there was a significant relationship. This is revealed in equation (15) below. Both the correlation coefficient (R^2=0.575) and the t-values were signifiant. In the case of Defence, equation (16), the association was rather weak (R^2=0.28), although the t-values for the constant and that regression coefficient were significant. For the other cases examined (equations 17, 18, 19, 20), the association between the two variables was insignificannt as evidenced by the low correlation coefficient.

Moreover, a comparison of the Ministerial average errors (see Tables 10-2 and 11-2) does not point to any perceptible pattern. That is, those Ministries with the largest recurrent expenditure errors do not necessarily emerge with the largest development expenditure errors. The latter differential observations could imply that the causes of the two categories of errors differ and are therefore explained by different factors. Those diferences will be unveiled after a discussion of the causes of the development expenditure errors

that is to follow.

Table 11:4 Regression results of recurrent expenditure errors (in %tage) in relation to development expenditure errors (in %tage)

MINISTRY OF HEALTH	$Re = 15.70 + .2518\ D_E$ (5.9) (4.35)	$R^2 = 0.575$	(15)
DEFENCE	$R_e = 101.10 - 3.893\ D_E$ (2.1) (-2.34)	$R^2 = 0.28$	(16)
EDUCATION	$Re = 5.4615 + 0.0814\ D_E$ (1.4) (.86)	$R^2 = 0.05$	(17)
AGRICULTURE	$R_e = 11.47 + 0.1005\ D_E$ (0.76) (0.24)	$R^2 = 0.004$	(18)
COMMUNICATION	$R_E = 9.09 + 0.1305\ D_E$ (.63) (.26)	$R_2 = .005$	(19)
LANDS	$R_e = 1.44 + 0.01678\ D_E$ (.31) (.126)	$R^2 = 0.001$	(20)

(Re stands for recurrent expenditure errors, while De stands for the development expenditure errors. The figures in parentheses are the t-values. The t-values are tested at the 5% level of siginificance).

Having seen the nature and magnitude of the errors, we can now move on to the next section which examines the predictor factors used in setting out the forecasts.

III CONSIDERATION AND EVALUATION OF FACTORS TAKEN INTO ACCOUNT IN PROJECT DEVELOPMENT EXPENDITURE.

Development expenditure in Tanzania is planned and incurred on projects basis, forming the Annual Plan. The Ministry of Planning and Economic Affairs (Dev-Plan) is responsible for coordinating the Annual Plan. The work of preparing the annual development expenditure forecasts normally starts even before the scheduled time for budget preparation. For example, some projects may have the feasibility study done some months or years in advance, but they are shelved until such time that funds for developing them are available. Therefore, the annual forecasting would involve a process of selecting those designed projects which can be financed during the period. A number of factors are considered in determining what projects ought to be implemented.

The factors which are used in determining the level of expenditure will be examined from two points of view. The first perspective is that of foreign supported projects, while the other is the locally funded projects. In the case of foreign aided projects, which actually comprise the bulk of projects implemented (see Table 11-9(b) - below) the major factor is the availability of the external funds during the budget period. All projects with committed foreign funding in the fiscal year are normally included in the annual plan. Meanwhile those foreign funded projects requiring local counterpart funds will be allocated such funds depending on the project costs and the scheduled work during the budget period.

On the part of locally supported projects, whether on-going projects or new ones, two main factors are considered. The first

factor is the general expenditure policy that the government desires to be pursued during the fiscal year. If the policy to be pursued is one of expenditure retrenchment, then such projects are considered accordingly. The other major factor is local revenue availability. There are two main sources of local revenues, namely, the surplus from the recurrent budget account, and borrowings from banks and other financial intermediaries. The position of these sources has been discussed in detail below. The main observations made in respect of such sources is that, they do not provide much room for increased expenditure. Therefore, the locally financed projects are the ones which have to be squeezed between the foreign aided projects expenditure and the ceiling set for total development expenditure.

The formal process of development budget forecasting starts with the DevPlan issuing the general guidelines. The guidelines comprise of expenditure ceilings which are broken down into local and external funds. The ceilings are set after considering the factors highlighted above, namely availability of disposable external funds, government expenditure policy and revenue position. These guidelines do highlight briefly sectors or activities which ought to receive some priority; which implies that the allocation that is done by DevPlan in setting the ceilings reflect in broad terms the priority accorded to each spending agency. Detailed programme priorities are not reflected in the guidelines. The onus to decide what programmes should be given top priority which should conform to general government policy rests with the spending agencies.

In principle, the projects to be undertaken are supposed to be in compliance with the medium and long term plans.[3] But, beginning

with 1982, the emphasis was on the locally prepared Structural Adjustment Programme (SAP) that was launched there upon. In the SAP, the policy emphasized was one of consolidating on the on-going projects rather than just embarking on new projects. In practice, the annual plans never reflected substantially the policy objectives of the medium and long term plans, and nor have they conformed to the objectives of SAP. Instability in development revenues plays a crucial part. Heavy reliance on foreign financing for development projects has sometimes meant selecting projects which will receive attention from Donors, rather than what is critically essential for the country as laid down in the medium and long-term plans. Secondly, other economic instabilities such as drought, transportation bottlenecks, dead-locked negotiations with IMF reducing external credit, and balance of payments problems etc. push the government into assuming priorities which are focussed on the impending crisis (ie short-term management of the economy) rather than on its predetermined long-range goals. The latter has been summarized ably by Stein as he pointed out that "in the case of Tanzania, annual planning does not set targets aimed at disaggregating the long-term and medium goals. It bears little or no relation to these planning exercises. The primary thrust of annual planning is budgeting domestic and foreign development funds to particular projects."[4]

Other factors which have to be taken into account in preparing the development expenditure forecasts are those generally required for project preparation. Sectorial programmes are prepared in the form of district projects. As has been pointed out in the Manual for Budgetary Process in Tanzania, the "objects of expenditure are

recorded by project."[5] In practice, all new projects submitted to DevPlan are required to be supported by detailed feasibility studies.[6] The latter are expected to show the viability of the projects. The techniques of assessing such viability will depend on the nature of project being undertaken. Profit-oriented projects have different appraisal procedures from the non-profit ones. Those intended to join the parastatal sector have to employ cost/benefit analysis including discounting techniques. The costs determined by such analysis become the development budget estimates which are apportioned over the years that the installation takes place. For the profit-oriented projects it is quite possible to make an assessment of both costs and monetary returns simply because their products will have to be marketed.

On the other hand, projects whose viability is assessed in terms of welfare benefits, such as roads, schools, hospitals etc. do not employ elaborate cost/benefit analysis techniques as in profit-oriented projects. In most cases acceptance/rejection decisions are political in nature which reflect lobby pressure. The appraisal that is carried out concentrate on cost minimization. The process involves assessing the alternatives of presenting the project. For example, in the case of a road construction project a decision is made in advance on the type of road to be constructed, say a highway or an ordinary tarmac road or an all seasons earth road. Then engineering consultants and quantity surveyors are engaged to prepare bill of quantities. On the basis of the latter the government invites tenders for carrying out the job, indicating cost estimates. The quotations could come from any institution, either government or non-government.

The accepted tender value becomes the project estimates to be spread over the construction period. The quality of appraisal carried out in respect of a project will of course depend on size of the project, secondly, quality of planning staff available to carry out the study, and thirdly, availability of data to be used in the appraisal. The paucity of skilled and experienced manpower and that of data has often been stressed, and they have been affecting the quality of appraisals very adversely. The detailed feasibility studies are normally carried out after project proposals have been approved by DevPlan. The latter normally sponsors the studies in the case of non-parastatal proposals, which sometimes might involve requesting technical assistance from foreign agencies. The parastatal organizations can however initiate their own feasibility studies, but still, DevPlan's approval is essential. The purpose of Dev-Plan endorsing such proposals is to ensure that, in principle, all development programmes conform to the medium and long-term plans. At the spending level, the planners who allocate funds to projects have a clear knowledge of those projects with external funding because negotiations with the Treasury, Dev Plan and the donors are done well in advance. Problems can only arise in establishing the amount of local funds that are to be allocated to each project, either as full project costs or as counterpart funds. In the absence of clearly defined government policy priorities over what will be accepted for funding in the short run, the practice by the spending agencies over locally funded projects has been one of trying to accomodate as many projects as is possible to the 'ceiling' amount allocated. This phenomenon has been discussed further below in section IV where the consequences have also been noted.

IV A STUDY OF DEVELOPMENT SUPPLEMENTARY BUDGETS

(i) Magnitude of Development Supplementary Estimates in relation to aggregate development expenditure during 1967/70-1982/83.

During the period 1969 to 1983 the Government had to resort to supplementary estimates to to-up the initial allocations. These supplementary provisions have been quite a significant share of the total development expenditure. As can be seen from table 11:5 below, the proportion of such supplementary estimates to actual development expenditure has varied from 2.2% to 28.6%.

However, these supplementary estimates do not show any strong trend pattern. This can be discerned from the results of trend analysis appearing in equation (21) below. The strength of the equation, measured by R^2 =0.39, appear to be weak. However, the positive sign on the significant regression coefficient indicates that there has been some growth. But when the estimates are taken as a proportion of actual development expenditure and then regressed on time, getting R^2=0.15; the latter is too low for the equation to be interpreted. Moreover, the regression coefficient is insignificant. This is clear from equation (22) below.

Table 11:5 Supplementary Estimates ALLOCATED OVER 1969-83

Year	Amount of Supplementary Estimates (mill. Tsh)	Proportion of Supp. Estimates to Actual Dev. EXPENDITURE	Date passed in Parliament
1969/70	38.6	6.3%	Mar.& June '70
1970/71	21.4	2.6	Apr.& June '71
1971/72	19.5	2.2	Jan.& June '72
1972/73	66.7	7.0	Feb.& June '73
1973/74	219.9	13.5	No.'73&Mar '74
1974/75	116.0	6.8	March 1975
1975/76	421.5	25.3	March 1976
1976/77	240.0	7.2	Jan. 1977
1977/78	951.0	28.6	Oct.77,Feb, May & June78
1978/79	1233.6	26.0	Jan.& June '79
1979/80	587.8	11.3	Apr.& June '80
1980/81	638.0	13.4	Apil 1981
1981/82	-	-	-
1982/83	926.0	21.0	June 1983

Source: United Republic of Tanzania, (Various Years)
Acts and Bills,

$$S_1 = -190.998 + 61.32\,(T) \qquad R^2 = 0.39 \qquad (21)$$
$$(-0.80 \qquad (2.77)$$

$$S_2 = \underset{(0.62)}{0.0384} + \underset{(1.5)}{0.00885\ (T)} \qquad R^2 = 0.15 \qquad (22)$$

(S_1 is the supplementary expenditure estimates variable, while S_2 is the variable of ratio of supplmentary estimates to actual development expenditure. T is the time series, while the figures in parentheses are the t-ratios which were tested for criticalness at the 5% level significance.)

On the other hand, the supplementary estimates appear to be exhibiting a relatively mild relationship to the actual development expenditure. This can be discerned from equation (23) below where $R^2 = 0.40$. The significant positive regression coefficient implies that the estimates have been increasing generally with the actual expenditure over the years. This also implies that such estimates are an important part of the budgetary process.

$$S = \underset{(-0.76)}{-12.867} + \underset{(2.81)}{0.14462\ D} \qquad R^2 = 0.40 \qquad (23)$$

(S is the supplementary expenditure estimates, while D is the actual total development expenditure. The figures in parenthesis are the t-ratios tested for their criticalness at the 5% level of significance.)

(ii) Evaluation of factors leading to setting up of the supplementary budget.

The supplementary estimates in the case of development expenditure budget are prepared for a number of reasons. Foremost is the availability of extra revenues in the course of the year. Such extra revenues could arise from local and/or foreign sources. During

the interview with Bali (op.cit), it was expressed explicitly that allocation of local funds at the initial budget stage was limited because of the fear of massive budget deficits. The latter implied that if revenue mobilization improved in the course of time, those projects underprovided would be allocated more funds. Secondly, additional local funds would be allocated to projects sponsored from outside if the project management complained of counterpart funds under-budgeting. On the other hand, during the year some negotiations and financing agreements are concluded between the government and foreign donors. If funds under such agreements are made available during the period, then authority is granted for the project to either begin, if it is a new one, or continue, if it is an on-going one.

Sometimes some projects are omitted by spending agencies from the original budget presentation if the ceiling amount is too small, but then they continue to pressurize the government to reconsider such cases. Depending on their importance, some are accepted and granted funds through the supplementary estimates. In principle, these are the reasons which compel the parliament to authorize the supplementary estimates. For further exemplification, the supplementary estimates for 1982/83 will be examined in detail, as an example, to trace the reasons given to support such authorization. Worth noting is the fact that in 1982/83 about 47% of the supplementary funds allocated came from external sources and a few locally-based independent institutions. The rest 53% was mobilized from normal local government sources.[8] The allocations were for the following reasons:

(1) increased input costs related to price changes etc.

(Sh. 221.8 million or 24%)

(2) Projects omitted from the initial budget but reconsidered later (Shs. 232.6 million or 25%)

(3) Other unforeseen events (Sh. 30 million or 1/3%)

(4) Some errors of omission in the initial budget (Shs 35.5 million or 3.8%)

(5) New agreements with donors (Shs. 395.7 million or 43.6%)

The reallocations highlighted above reflect the problems that he government faces in projecting development expenditure. Uncertainty over local and external revenues accentuate the prediction problem. Projects which are linked to foreign funding have to wait until some agreement is reached, and that is when the Parliament authority to execute them is granted (The procedure for handling foreign aided projects was outlined in chapter 9 above (p.307).

With the latter in mind, we can now turn to the task of diagnosing the deviations (errors) and see the policy measures which can be adapted to reduce the problem of forecasting.

V DIAGNOSIS OF THE DEVIATIONS AND SCOPE FOR REDUCING THE DISCREPANCY

From the analysis presented in Section II above, it became apparent that development spending has generally fallen short of the planned levels. As noted, the overpredictions have persisted in the last fourteen years. In fact some underspending have occurred even in those years when planned expenditure saw some retrenchment. For example, from Appendix 11 Table A-I it can be seen that planned expenditure declined in nominal terms from 1979/80. The underspending has of course far reaching implications on the macro economy.[9]

These deviations can be explained by a number of interrelated factors, which typically reflect the fiscal crisis that persists over the economy. However, in view of the fact that these factors are interwoven, it is not possible to decompose the errors in any period and associate them with specific factors. These factors are discussed below.

(i) Volatility in Development Revenues.

Overall, development revenues are not derived from stable and flexible bases. The three main sources, namely, surplus on recurrent budget, borrowings from local financial intermediaries, and borowings from external sources are not quite stable in terms of assuring the Treasury that the funds will for sure be available as planned. A surplus from recurrent budget has been realized in only a few years, namely 1967/68 to 1973/74 and 1977/78, as can be observed from table 11:6 below. Even as a percentage of actual development expenditure, it is quite insignificant.

TABLEE 11:6 SURPLUS FROM RECURRENT BUDGET FOR DEVELOPMENT EXPENDITURE

MILLIONS OF Tsh.

YEAR 67/68	68/69	69/70	70/71	71/72	72/73	73/74	74/75	75/76	76/77	77/78	78/79	79/80	80/81	81/82	82/83
SURP. (defic) -48	17	83	53	263	133	16	-666	-388	575	519	-1610	-1472	-1264	-2254	-1227
SURP./ DEV. EXP.	3.7	13.6	6.4	29.8	13.9	1.0			17.7	15.6					

(Surp. stands for surplus, while (defic) stands for deficit represented by a -Ve sign)

(Surp./dev. exp. stands for surplus/development Expenditure expressed in %tage)

Source: United Republic of Tanzania, (Various Years) The

Economic Survey,

Regarding local borrowing, the government has a maximum limit for borrowing from the Banks, mainly the Bank of Tanzania. The annual limit is normally set in the Finance and credit plan10, and this is the amount included in the budget estimates. A comparison of the estimated borrowings with actual borrowing clearly indicates that the upper limit has been surpassed in various years, as is shown in Table 11:7 below. In fact, in most of the years when the ceiling level was exceeded, the government had to borrow from other Banks. For example, in 1974 and 1975 when the government had reached its ceiling at the Bank of Tanzania, it had to circumvert the law by going to borrow from the National Bank of Commerce. After this period the government had to initiate an amendment to the Bank of Tanzania Act (No.12 of 1965) so that it could borrow more when it became absolutely necessary. The latter clearly demonstrates that this source of revenue is not very open, and besides, the government risks the adversity of excessive money supply when production is falling.

TABLE 11: 7 BANK BORROWING TREND

Millions of Tsh.

Year	73/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83
Estimated Borrowing	300	300	150	500	700	711	1667	1551	2850	4376
Actual Borrowing	613	834	570	-	232.3	3056.7	2804	2916	3276	4206
Excess Borrowing	313	534	420	-	-	2346	1137	1365	426	-

Source: United Republic of Tanzania, Annual Plans, The Economic Survey, Various years.

As regards external funding, there has been overdependence on it for funding development expenditure. The close relationship between Development expenditure and external funding is confirmed by a linear regression function. From equation (24) below the high value of correlation coefficient (R^2= 0.936) and the significant t-value of the regression coefficient (t-14.28) clearly point to the strength of the association.

$$D = 20.8 + 2.2645\,A \qquad R^2 = 0.936 \qquad (24)$$
$$(0.098)\ (14.28)$$

(D is the actual development expenditure, A stands for the external revenue (loans/grants), and the figures in parentheses are the t-values-tested at the 5% level of significance. The data used was for the period 1967-83).

As can be seen from table 11:8(a) below, the expected contribution of such external funds towards the budget over the study period, ranged from 1.1% to 74%, while, the outturn was as shown in table 11:8(b) below where the contribution ranged from 23.7% to 70%.

TABLE 11:8(A) EXPECTED CONTRIBUTION OF EXTERNAL REVENUE TO

DEVELOPMENT EXPENDITURE

YEAR	67/68	68/69	69/70	70/71	71/72	72/73	73/74	74/75	75/76	76/77	77/78	78/79	79/80	80/81	81/82	82/83
PLAN. EXTERN. FUNDS.	3.04	5.74	230.2	320	535.5	746.6	1044	1191	1967	1804	2352	3848	4219	4050	4897	2584
%tage of Plan. Dev. Expend.	1.1	1.8	32.7	35.1	45.3	54.1	50.6	52.7	65.3	51.5	54.3	72.7	58.7	57.5	74	53.7

PLAN. EXTERN. FUNDS - stands for Planned External Funds. (Tsh. in mill)

Plan. Dev. Expend. - stands for Planned Development Expenditure.

SOURCE: United Republic of Tanzania, The Economic Survey, various years.

TABLE 11:8(b) ACTUAL CONTRIBUTION OF EXTERNAL REVENUE

TO DEVELOPMENT EXPENDITURE.

YEAR	67/68	68/69	69/70	70/71	71/72	72/73	73/74	74/75	75/76	76/77	77/78	78/79	79/80	80/81	81/82	82/83
A.E.R.	84.2	123	142	330	504	518	681	1039	1033	1402	1369	2427	2320	1872	1795	1852
%tage of A.D.E.	24.5	26.7	23.7	39.8	57	54.2	41.8	61	61.9	43.2	41.1	51.1	44.8	39.3	34.6	42.1

A.E.R. - stands for Actual External Revenue. (in millions of Tsh.)

A.D.E. - stands for Actual Development Expenditure

Source: United Republic of Tanzania, (Various Years) The Economic Survey, various years.

The aid-expenditure ratios are certainly high, especially in the 1970s and early 1980s. The realization ratios (actual revenues to actual expenditure) have certainly been lagging behind the expectation ratios (estimated external revenues to estimated expenditure). The latter can be deduced from the simple linear regresion (equation (25)) whereby the regression coefficient is less than unity.

$$A = 26.22 + 0.3511\ E \qquad R^2 = 0.38 \qquad (25)$$
$$(4.2) \quad (2.94)$$

(A is the realization ratio, E is the expectation ratio, and the figures in parenthesis are the t-values. Though the regression is quite weak, however, the parameters are significant in view of the high values of the t-statistics tested at the 5% level of significance.) Besides, it has already been demonstrated above (chapter 9 pp.) that there were very significant overpredictions in external revenues.

Moreover, an analysis of the development expenditure errors (see table 11:1) in relation to the Aid errors (chapter 9 table 9-1) using linear regression analysis indicates that the two are closely related. From equation (26) below which has a high value of $R^2 = 0.68$ and a significant value of t-value, a strong association is detectable.

$$D = -20.2384 + 0.02254\ A \qquad R^2 = 0.68 \qquad (26)$$
$$(-6.04) \quad (5.5)$$

(D is the development expenditure error (in %tage) and A is the Aid error (in %tage). The figures in parentheses are the t-values. The

period covered is 1967-83).

In pointing out to the strong correlations between development expenditure and external funding, we are postulating that the instability in external revenues is a major cause the development expenditure instability. By looking at the expenditure instability index (a normalized coefficient of variation)[12] of 24.91 vis-a-vis that of external revenues ie 28.03, we can certainly detect an element of closeness.[13] This is not to say, however, that the instability in development expenditure is caused by aid only. The other factors discussed below (not easily quantifiable) must have contributed to the instability.

The heavy dependency on external funding could have three main restrictive effects on development expenditure. First, the timing of the disbursement of the external funds does not necessarily coincide exactly with the government's fiscal year. This discrepancy of wrong timing of disbursements of external funds was noted in the 1979/80 Annual Performance review (APR) as being one of the causes of poor project performance.[14] Secondly, since some of the project implementers fail to fulfil some of the loan and/or grants conditions, in terms of producing timely and properly prepared and documented claims and financial reports, consequently delaying further disbursements, the effect is one of holding up the use of any local counterpart funds pertaining to the projects affected. This delay in disbursing funds due to lack of timely reports and claims was observed to be a major obstacle on project implementation in the 1979/80 APR.[15] Thirdly, given that most donors require the recipient government to provide local counterpart funds as was noted in chapter

9 p. above, failure to provide sufficient funds for the local costs, will hold up the external funds and since the latter comprises more than 35% of the development budget (see table 11:8(b) above), projects implementation get hampered. The problem of underbudgeting was vividly expressed by the Dev. Plan officer who was interviewed. Also, the latter was stressed in the 1979/80 APR as being a serious problem.[16] Some examples of projects with big underestimations have been cited already in chapter 9 above - table 9A-3 of Appendix 9.

It can therefore be argued that the lack of dependable and flexible development revenue bases destabilize the expenditure plans tremendously. The impact has been felt in terms of having far less amount being spent when compared to the forecasted amounts.

(ii) The problem of poor project designs and inadequate feasibility studies.

Since development expenditure deals with projects which have to be designed and costed, faulty designs also produce wrong costings. Any corrective changes conceived on the design during implementation tend to hold up spending as well. In the 1979/80 APR, poor project preparations in the sense of poor assessment of factors and costs etc., and poor project approval were stressed as having contributed to delays in project implementation.[17] Moreoever, an investigation of the cost overruns in ten of the more egregious cases in Appendix 9 table 9A-3 indicated that seven out of ten cases had been caused by incomplete information on the projects. As remarked by Stein, it means that the 'planners had poor concept of the projects or failed to adequately investigate the cost of the projects.'[18]

The problem of poor designs and evaluation was also stressed by World Bank in its Audit Preview Report of its sponsored projects.[19] As pointed out in the latter report, these faulty project designs impelled the implementers to make some drastic changes which sometimes changed the content of the project completely. The consequences of the latter action was a delay in project execution and funds disbursement.

(iii) Paucity of project inputs and competent local contractors.

It has been pointed out by Caiden and Wildavsky that if a project has to be built in time, the following, inter alia, are required; availability of materials; ability to import commodities; and distribution of skills in the population etc.[20] The problems of project inputs, whether locally produced or directly imported, imposed a big restraint on project implementation. Besides, the problems of input shortages is aggravated further by the existence of unprofessional and incompetent local contractors who may draw some project funds and do nothing, on the pretext of shortages of inputs. These problems of shortages in materials, infrastructure etc. have been emphasized further by Stein in respect of the projects with cost overruns cited above (p.).[21] Besides, as pointed out by Stein, the "virtual lack of any material balances or any attempt at utilizing even crude input tables were bound to induce shortages and inconsistencies."[22] The problem of input shortages and lack of material balancing was also pointed out in the 1979/80 APR as being critical on project implementation.[23] Moreover it should also be stressed that the shortage of local contractors inevitably leads to hiring of of foreign contractiors who have to acclimatize to the new

environment, sometimes at the expense of the project time.

Practically, most of the large scale projects, especially those sponsored by donors, are undertaken by foreign contractors. Experience on such projects, such as those listed on Appendix 9 table 9A-3. above, indicate that they are never completed on time.

IV Paucity of local skilled manpower in project planning management, control and monitoring.

Development expenditure planning in Tanzania is a decentralized bottom-up process in which spending agencies identify, design and appraise the projects and then forward them to Dev. Plan for approval. They of course process the projects while taking into consideration the guidelines passed downwards by Dev Plan. This decentralized system of planning for projects is emphasized in the Manual for budgeting. [24] Moreover, as it can evidently be seen from Table 11-9 below, which considers the distribution of rural projects proposed at various levels, the expenditure planning system emphasizes a bottom-up approach. The implications of what has been demonstrated below, it can be argued, is that much of the project appraisal is done without much expertise. How many qualified economists, engineers, accountants etc. do we expect to find at village or district level? The shortage of skilled staff in every sector is an irrefutable fact. The 1979/80 APR clearly indicated that paucity of planners in centres other than Regional and Ministerial centres was an issue of concern. The few available planners were allocated to the planning section in the Ministries and Regions first; although the projects are not proposed at these centres.

TABLE 11:9. PROPORTION OF RURAL PROJECTS PROPOSED AT VARIOUS LEVELS

Level	Pre-Decentralization (Before 1972)	Post-Decentralization (After 1972)
Villaage/Ward	62.5%	54.6
District	18.8	35.4
Regional	6.2	2.0
National	12.5	8.0
Number of projects	32	201

Source: Adopted from Stein op.cit Table 4p.28.

They only receive already worked out proposals from agencies under them.[25] And even if the planners were available at the lower levels, still, shortages of other skills which are essential for providing inputs into the plans, would continue to undermine the quality of plans produced.

In addition, the Ministries and Regions lacked staff to control and monitor projects being implemented under them. At Dev-Plan itself, the officer interviewed expressed his concern over the staffing position of the project implementation and monitoring unit. While the establishment allowed employment of four experts, however, three vacancies still existed. This has been pointed out by Stein also as he notes: "although Dev-Plan has the structural means to monitor projects, they are also seriously understaffed that they have no time to exercise this prerogative." [26]

In the past years only two comprehensive Annual Performance

Reports were prepared; one for 1974/75 and another for 1979/80. Other operating Ministries lacked control and monitoring staff as well. For example, the Ministry of Communication and Works, which actually implements most of the construction projects of the government, clearly indicated that its planning division lacked qualified staff, especially engineers, to visit regularly the projects it was supervising which were scattered all over the country.[27] The lack of implementation reports produced by Dev-Plan became an issue of concern to the government and Parliament, to the extent that the latter had to organize itself into various commitees which would visit the projects and file reports to the Parliament.[28]

(V) Ineffective ceiling and project selection methods by Dev Plan.

Under fiscal stress, ceilings ought to be a more effective tool of controlling expenditure trends. Ceilings should not be used only as a tool to restrain the growth of expenditure, but they should reflect more on the effort to change the budgetary process so as to dampen the pressure for expenditure and strengthen the capacity for restraint. In the absence of adjustment on the budgetary process, the government may find itself spending more than it wants to.[29]

It is now evidently clear that in Tanzania, ceilings have been used to curtail the amount that can be requested by spending agencies (except for foreign-aided projects), rather than being an instrument of prioritizing on programmes which fall within the medium and long term plans.

Failure to use the ceiling mechanism appropriately has led to a diminishing control by Dev-Plan on project selection. Although, in

theory projects could be rejected by Dev-Plan if they are not consistent with planning goals, in practice, very few, if any, are rejected provided the cash ceiling has not been pierced.[30] Such practice reflects deficiencies in the planning system which are clearly highlighted in the 1979/80 APR where it is indicated that the government policy of consolidation on on-going projects launched in 1982 under the Structural Adjustment Programme does not appear to be working because of the increasing number of projects being undertaken. This implies that the planners do not put adequate priority on on-going projects.[31] Consequently, more projects find themselves competing for the scarce financial and material resources available thus causing more delays in implementation.

(V1) Other miscellaneous contributing factors

Other minor factors have been observed to be contributing to delays in spending. The first one is that of unfounded assumptions about local participation in the form of self-reliance, especially contributing labour, in developing the projects, (APR. op.cit. p.28). Self-reliant contribution is a common proposition during appraisal and approval of projects originating from Villages, Wards and Districts. But this exaggerated commitment disappears when the public is called upon to make their contribution. Consequently, funds which had been released and were to be expended upon first satisfaction of the self-reliant condition, are found to be held up.

Other limiting factors are related to the general economic instability. The galloping inflation changes input prices drastically. In Chapter 9 (p.308) the example of Makambako-Wino road

project was cited and inflation alone had contributed to 57.8% cost increase over the initial target cost. Other government abrupt changes such as huge tax increases, across the board salary and wages increases for all workers in the nation etc., do also impose some difficulties on projects implementation because the additional funds have to be sought out first.

It is interesting to note at this juncture that the factors which caused the prediction errors in development expenditure differ somehow from those noted in the case of recurrent expenditure. While in the former it has been argued that three crucial factors have contributed to the imperfection in forecasting, ie. the uncertainty over the revenues, serious institutional weaknesses which contribute towards poor project designs, valuation, approval and monitoring, and paucity of factor inputs, on the other hand, for the recurrent expenditure prediction errors it was observed that poor financial management and control was the main cause. Thus, while in the recurrent budget case it could have been much easier to manage the budget implementation in relation to the budget plans, in the other case it would not have been that easy because of the country's dependence on foreign revenues to finance its programmes.

Having seen what appears to be the plausible causes of the underspending, we can now examine the possible reform actions that could reduce such underspending. Given the resource constraint, there are certainly no quick policy propositions for ameliorating such problems. However, from the points raised above, coupled by some of the supporting evidence provided, there appears to be a glimse of hope for improvement in the shortrun provided that some appropriate policy

measures are initiated. What could these measures be:

(i) Improvement on ceiling setting and project approval.

The current practice of using ceilings as a means of limiting funds requests without considering in detail the programmes (projects) themselves ought to be reformed. The cash-based ceilings invite spending agencies to try to accommodate as many projects as they can within that cash limit, sometimes with some project costs understated, so as to invite acceptance. Once they are funded the government will have to bear the brunt of the upward adjusted costs in the future. The reform required involves some adjustment to the budget process, as outlined below:

(i) The government should initiate a development budget preparation to start approximately 12 months before the commencement of the fiscal year to which it pertains.

(ii) All spending agencies should submit a list of their appraised projects to Dev-Plan, say in the first month of the period allocated for preparation.

(iii) The Dev-Plan should then use its internal resources and even hire private services to re-evaluate the proposals to ensure that factor costs are fairly considered.

(iv) Then Dev-Plan should draw three lists. First list should be of on-going projects; Second list should comprise of new projects ranked as high priority, while the third list should comprise of new projects ranked as low priority. Priority would not be judged only on basis of fulfilment of medium and long-term development objectives, but also in terms of financial and

material resource availability, regional balance etc.

(v) The three lists should be presented to the Economic Committee of Cabinet (ECC) for indepth consideration and approval of the classification between low and high priority projects. Consideration for inclusion in the annual plan should be on the list of on-going and high priority projects. The low priority list should be deferred till next budget season.

(vi) After ECC has examined the projects and has given its approval, Dev- Plan should hold the list till the time for issuing the guidelines (normally December/January)

(vii) Dev Plan in conjunction with Treasury should carry out its mid-year review, done normally in November/December, which should enable it to prepare the baseline (extrapolations for next budget) expenditure to be used in preparing the ceilings. The revenue prospects (local and foreign) should be considered in determining the baseline.

(viii).The list of on-going projects should be accorded first preference in the baseline amount. Then the balance of the baseline should be allocated to the high priority list. If all the new projects cannot be funded within the balance, then Dev-Plan should prepare another short list from the high priority list with a careful consideration of sectorial and regional balance.

(ix) The allocations made based on the baseline and the list of projects to be funded should be forwarded to ECC for further consideration. The projects eliminated should also be examined before they are included in the list of low priority for

deferment.

(x) DevPlan should prepare the general guidelines based on the approved list of projects which should be sent back to the spending agencies. The guidelines should also make it clear that the projects on the low priority list have ben deferred to the next budget season.

(xi) Spending agencies should prepare action plan or implementation schedule, cash flows etc. which should be submited with project proposals, including any additional comments where necessary.

(xii) DevPlan should then prepare the formal Annual Plan, and make any adjustment in case of changes in circumstances.

This process would also imply that those projects supported by external aid which fall in the low priority list would have to be shelved, unless the donors are willing to waive counterpart local costs. This suggested process of setting ceilings based on projects rather than cash, would also give some impetus to the top-down process of budget preparation, which would infact compliment the presently emphasized bottom-up process. A firm grip on the annual planning process by Dev Plan is indispensable if the economy is to be steered to the right growth direction.

(ii) Reinforcement on Control and Monitoring Staff

The government has to take a deliberate action to reinforce the control and monitoring staff. The latter is an indispensable ingredient of sound financial management. At DevPlan, the Project implementation and Monitoring unit should have all the three vacancies filled, and if possible, to be supported with experienced expatriate

staff who can assist in developing a flexible system for data accumulation, analysing and reports preparation, which focus on the crucial issues of financial control. Moreoever, the unit could be reinforced with a microcomputer. The reported success in producing accurate and timely reports in the Minsitries of Agriculture and Livestock Development in the Republic of Kenya could be a telling illustration of how such microcomputers can be useful in tackling data processing and assist in introducing other necessary reforms, even where adequate skilled labour lack.[32]

VI SUMMARY

The results of the analysis done in this chapter indicated clearly that expenditure outturn does not match the expenditure forecasts. It was shown that actual spending has been lagging behind predicted expenditure, thus pointing to a tendency to over-predict. The latter phenomenon was observed in both cases of total development expenditure and the sectoral expenditures. Moreoever, inspite of the prevalence of an overall tendency to overpredict, some supplementary approvals had been granted as well. Such extra approvals were observed to involve both on-going and new projects, and considered local and external funds. Most of the funds authorized (about 76%) were an addition to the list of projects, while the rest (24%) were authorized to cover increased costs on on-going projects.

It was further indicated that development spending was planned and executed in form of specific projects rather than general programmes. Consequently, the projects were considered for funding when design and feasibility studies had been carried out. But the quality of the design and appraisal, it was argued, depended more on the size and nature of project. Small scale projects in the rural areas would demand less rigorous appraising than the large scale type usually undertaken by the Ministries and Parastatal organizations. Besides, the other important factor influencing the quality of project appraisal, was noted to be the distribution of skilled planning manpower. At national level (Ministries and Public enterprises) it was more likely to find some qualified staff (local and expatriates) compared to the villages level.

In examining the factors which were considered in generating the

forecasts, it was shown that three of them were more influential. These were the expected disposable foreign funds; the past and expected trend in local revenues - namely the surplus from the recurrent budget and the borrowings from Financial Intermediaries; and finally the development expenditure trend itself. These factors were seen to be of only financial consideration nature, and the forecasts did not consider other more important non-financial factors which have been pointed out to have perverse impact on project spending.

The financial factors were themselves seen to be quite unstable, and to some extent to be beyond the control of the budgeters. The latter implied that total resource inflows were far short of the pre-conceived levels. The non-financial factors which were not considered seriously, and which, therefore, affected programme implementation included; imbalances in local material resources; scarcity of foreign exchange to import materials, equipment, spare parts, etc; scarcity of local contractors; and scarcity of planners and controllers at all levels of planning. Institutional weaknesses were also seen to affect the rallying of expenditure plans behind the medium-and long-run objectives. Consequently, there was a failure to comply to set policies. A good example mentioned of non-compliance to policies was that of failure to ensure that priority was accorded to on-going projects as part of S.A.P'S objectives. On the contrary many new projects continued to be approved.

Furthermore, the chapter examined the scope for reducing the discrepancy between the expenditure outcome and the forecasts. One major reform suggestion made in respect of the budget process is that of having the DevPlan assume more decision-making powers over

development expenditure programmes. The current practice of preparing the expenditure plan clearly shows that the top-down process of deciding on expenditure priorities is ineffective. DevPlan appears to be playing the role of compiler (ie consolidating programmes suggested by spending agencies into the Annual Plan) rather than that of planner and controller. The second suggestion made is that of re-enforcing the control and monitoring units with competent manpower; especially at DevPlan where the Sectoral operational reports are supposed to be analysed and management reports prepared.

In short, what has been exposed in this chapter, clearly demonstrates that the development programmes are out of control of the budgeters. The persistent divergencies between planned expenditure and realization typify the distortions which are imposed on the economy in general. If budgeted expenditure were to be perceived as embodying the objectives or goals of the short and long-term plans, then failure to accomplish the targeted levels imply a failure to attain the pre-set objectives. Some very scarce resources (local and foreign) have been wasted by being allocated over a broad spectrum of projects, most of which could not be put into operation as planned because they could not be completed in time. But all these resulted from a failure to consider comprehensively the critical factors which affected project implementation as a whole.

NOTES

1. Caiden N, and Wildavsky A, (1974). Planning and Budgeting in Poor Countries, P. 93, New York, etc. John Wiley & Sons.
2. The criterion for deciding on whether it is an under - or over prediction is the size of the coefficient on the forecast variable. If the coefficient is greater than one, that indicates a tendency to underpredict, while a less than unity coefficient would signify overprediction.
3. Between 1964/65 and 1980/81, three formal plans (five-year plans) were launched. However, due to the ensuing poor economic performance (discussed in Chapter 3 above) in the late 1970s and early 1980's, the fourth five-year plan which was to be launched in 1980/81 had to be suspended.

   See Stein H. "Planning and the crisis in Tanzania" University of Dar-es-Salaam, Seminar paper (1982) Unpublished pp.7-12.
4. Ibid. p.18.
5. United Republic of Tanzania (1984). A mannual of the budget process in Tanzania - Dar-es-Salaam p.39.
6. Ibid p.41.
7. This point was raised by a high ranking official who was interviewed at the Ministry of Communication and Works.
8. United Republic of Tanzania, Supplementary Estimates of Expenditure No.1 of 1982/83, Dar-es-Salaam. Government Printers.
9. The importance of government development spending on the macro economy of a LDC like Tanzania cannot be over emphasised. Its impact can be examined from two points of view. One is expenditure's instrumental role of stabilizing and steering the

economy towards growth, while the second is that of developing productive and infrastructural capacity. For any LDC, the role played by such an instrument is not explicitly gauged as is the case for the industrialized countries. The conflict in roles played by such instruments is caused mainly by the internal and external economic disequilibrium experienced by the LDCs. How does this conflict arise? It has been postulated that under conditions of widespread unutilized productive capacities (in the form of unemployed labour and spare equipment), a further injection of government investment would lead to growth of production and of real national income (Eshag (1983) op cit p.39). But the latter could take place only under conditions of internal and external balance (those leading to raw material shortages, transport bottlenecks, skilled personnel shortages etc.) which are a characteristic of the LDCs. In LDCs, unemployment is due to structural problems (ibid. p.221). But as pointed out further by Eshag (p.22) "attempts to bring such capacity into production by stimulating effective demand when some industries are operating at full capacity are likely to lead to price rises in the latter industries and to a growth of imports." So using government spending as an instrument of stablization would not be very effective. Thus, given the less diversified structure of production and the relatively low level of economic activity in LDCs, their problem is one of ensuring that sufficient productive capacity is created without engendering inflation as opposed to stimulation of effective demand. It is in the context of this latter role that a failure to implement the expenditure plan ought

to be assessed.

10. Credit to the government is in the form of either advance or purchases of government securities. The Bank of Tanzania Act (No.12 of 1965) imposes limits to this lending to the government. As Hyuha points out "The total amount outstanding at any time of advances made and Treasury bills held by the Bank shall not exceed one sixth of the annual budgeted revenue (equal to 2 months revenues at the average monthly rate for the year."
(Hyuha M. "The financial superstructure in Tanzania : Credit Sources, provision and control" pp.97-8 in Univeirsity of Dar-es-Salaam (1984). The Role of Public Sector in the Economic Development in Tanzania;Dar-es-Salaam Economic Research Bureau.)
11. United Republic of Tanzania (1977) Budget Speech, 1977/78, Dar-es-Salaam. Government Printers p.14.
12. Idachaba F.S. op. cit. p.99 (or see Chapter 8 p.31 for the outline of the index determination). The indices were developed from the estimated Trend equations relating development expenditure and external loans/grants to time covering the 1967-83 period.
Index for development Expenditure = $100 \times \frac{621.673}{2496.32} = 244.9\%$

Index for Aid = $100 \times \frac{306.425}{1093.19} = 28.03\%$

13. It should be noted that the proposition made above about external revenue instability contributing towards development expenditure instability does not necessarily contradict other findings about the role of foreign borrowing and grants in reducing expenditure instability that is caused by other revenues instability. (see for

example Lim (1983) op.cit p.448). The critical conditions that determine whether the external revenues will have a stabilizing effect or not on the expenditures is the extent to which expenditures depend on foreign revenues, and the control that the government has over such sources. It has already been discussed in chapter 9 above the lack of control by Tanzania over the external revenues. On the other hand Lim (ibid p.448) has shown how foreign borrowing and grants can have a stabilizing effect on expenditure provided that the government has the ability to exploit such sources whenever needs arise. The logarithmic function that he estimated covering 45 LDCs taking data for the period 1965-73 was as shown below. The negative regression coefficient on FB and FG indicate stabilization effect on the expenditure instability.

Log. E = 0469 + 0.915 Log R - 0.081 Log IR - 0.169 Log DB
(1.833)(405.6) (-4.614) (-32.19)

- 0.217 Log FB -0.004 Log FG
(-38.776) (-5.510)

E and R are the instability indices for government expenditure and revenues, respectively, IR is International Reserves holdings, DB, FB, FG, are the averages of domestic borrowing, foreign borrowing and foreign grants respectively as a %tage of government expenditure. The figures in parentheses are the t-ratios.)

14. United Republic of Tanzania, (1980) Annual Performance Review, Dar-es-Salaam, Ministry of Planning and Economic Affairs. p.24.

15. Ibid pp.35-36.

16. Ibid p.29

17. Ibid p.34.

18. Stein H. (1982) op.cit. p.27.

19. World Bank (Feb 1978) Annual Review of Project Performance Audit Results. Washington D.C. p.3.

20. Caiden N et. al. (1974) op. cit. p. 145.

21. Stein H. (1982) op. cit. p.27.

22. Ibid p.15.

23. United Republic of Tanzania (1980-APR) op.cit. p.34.

24. United Republic of Tanzania (1984) op.cit. p.40.

25. United Republic of Tanzania (1980-APR) op.cit. p.28.

26. Stein H. (1982) op.cit. p.14.

27. The point was raised by a high ranking official in the Ministry of Communication and Works (op.cit) during the interview.

28. Tanzania (1983) Economic Survey and Annual Plan Introduction Speech 1983/84, Dar-es-Salaam: Government Printers, PP. 32-3.

29. Schick Allen "Macro-Budgeting Adaptations to Fiscal Stress in Industrialized Democracies", Public Administration Review Vol. 46 No.2 (March/April 1986) p.124.

30. Stein H. (1982) op.cit. p.21-22.

31. United Republic of Tanzania (1980-APR) op.cit. p.34.

32. Leonard D.K.,Cohen J.M. and Pinckney T.C. "Budgeting and Financial Management in Kenya's Agricultural Ministries." Agricultural Administration, No.14. (1983) p.117.

CHAPTER 12

FISCAL DEFICIT PROJECTIONS: AN EMPIRICAL INVESTIGATION

I INTRODUCTION

In this chapter the practice of forecasting government fiscal deficit is examined in detail. In practice, the budget deficit that is allowable in any fiscal period is set through the Finance and Credit Plan which is a component of the Annual Plan.[1] In respect of the budget, the Finance and Credit Plan normally considers in some detail government revenue and expenditure trend, the revenue and expenditure projections for the fiscal year to which the plan pertains, the expected surplus from recurrent budget, non-bank domestic borrowing, money supply and credit allocation to government, and external loans and grants.[2]

The concept of government fiscal deficit as will be used in the analysis, is a derivation from a conventional budget. The latter stands for a non-comprehensive or non-standardised budget, which implies that the budget items are not analysed and regrouped according to their impact on any policy target.[3] I have therefore defined the concept of fiscal deficit in broad terms, to mean increase in public (government) debt. The latter would therefore comprise of the domestic borrowings from banks and non-bank sources, and the foreign borrowings. Foreign grants are not considered as part of the deficit because they do not form part of public debt.[4] This treatment of fiscal deficit on an overall basis is also consistent with the IMF's classifications, where foreign grants are treated as ordinary

revenues.[5]

This chapter is more or less a summary of what has already been discussed in those chapters which have dealt with forecasting of revenues and expenditures. However, the chapter affords the chance to see budget forecasting in its totality rather than through the components. Undoubtedly, a clear understanding of the structure and trend in overall fiscal deficit is vital in as far as economic policy implementation is concerned. Moreover, it encourages proper budget planning when it is understood what has been the position on fiscal deficit. But also of secondary importance about overall fiscal deficit is to know the extent of the increase in public debt for its servicing in the future.

Although this chapter is looked at as an extension of the other forecasting chapters, we, however, continue to conduct the analysis under the guidelines of a hypothesis which states that: failure to specify correctly the predictor variables (or factors) which influence fiscal deficit have contributed to the significant errors of forecasting.

In tackling this topic, the discussion will take the following course. In section II the projected fiscal deficits are compared with the outturns, an analysis that will also involve using regression methods. Moreover, the forecasting errors taken as a proportion of GDP will be examined. In section III the errors will be diagnosed so as to determine the causes of errors. In section IV, possible measures of reducing the errors will be discussed. Finally, there will be a summary.

II PROJECTED GOVERNMENT FISCAL DEFICIT IN RELATION TO OUTTURN - ACTUAL DEFICIT REGRESSED ON PROJECTED DEFICIT

An examination of the forecasted and actual overall deficit during the 1968-82 period reveals that in some few periods (about 1/3rd of the years) there were some underpredictions, while in the rest (2/3rds of the years) there were overpredictions. This observation is quite clear from column 3 of Table 12: 1 below.

TABLE 12:1. FORECASTING ERRORS OF FISCAL DEFICIT (IN ABSOLUTE TERMS)

(Shs. in millions).

PERIOD	GOVERNMENT SECTOR Borrowing requirement (Forecast) 1	GOVERNMENT SECTOR financial deficit (outturn) 2	ERRORS $ 3	ERRORS as % of GDP # 4
	shs	shs	shs	
1967/68	410	305	-105	-1.5
1968/69	313	412	+ 99	+1.3
1969/70	824	369	-455	5.5
1970/71	927	688	-239	-2.7
1971/72	919	555	-364	-3.6
1972/73	1229	360	-869	-7.6
1973/74	1651	850	-801	-5.8
1974/75	1683	1865	+182	+1.1
1975/76	2095	1804	-291	-1.6
1976/77	2116	855	-1261	-5.3
1977/78	3008	1936	-1072	-3.4
1978/79	3177	4134	+957	+2.8
1979/80	5269	5261	-8	-0.1
1980/81	4249	4865	+616	+1.5
1981/82	4671	5373	+702	+1.6

Note: $ - The negative figures stand for overpredictions, while the positive ones stand for under predictions.
- The GDP figures used in the computation are those in current values.

Source: IMF: International Financial Statistics, Year Book; The United Republic of Tanzania (Various years), The Annual Plans and The Economic Surveys.

When the actual fiscal deficit is regressed against the projections, the coefficient results point to a general tendency to underpredict, a phenomenon which does not tie-in with the visual observation made from column 3 of table 12: 1 above. Equation (1) below reveals such results.

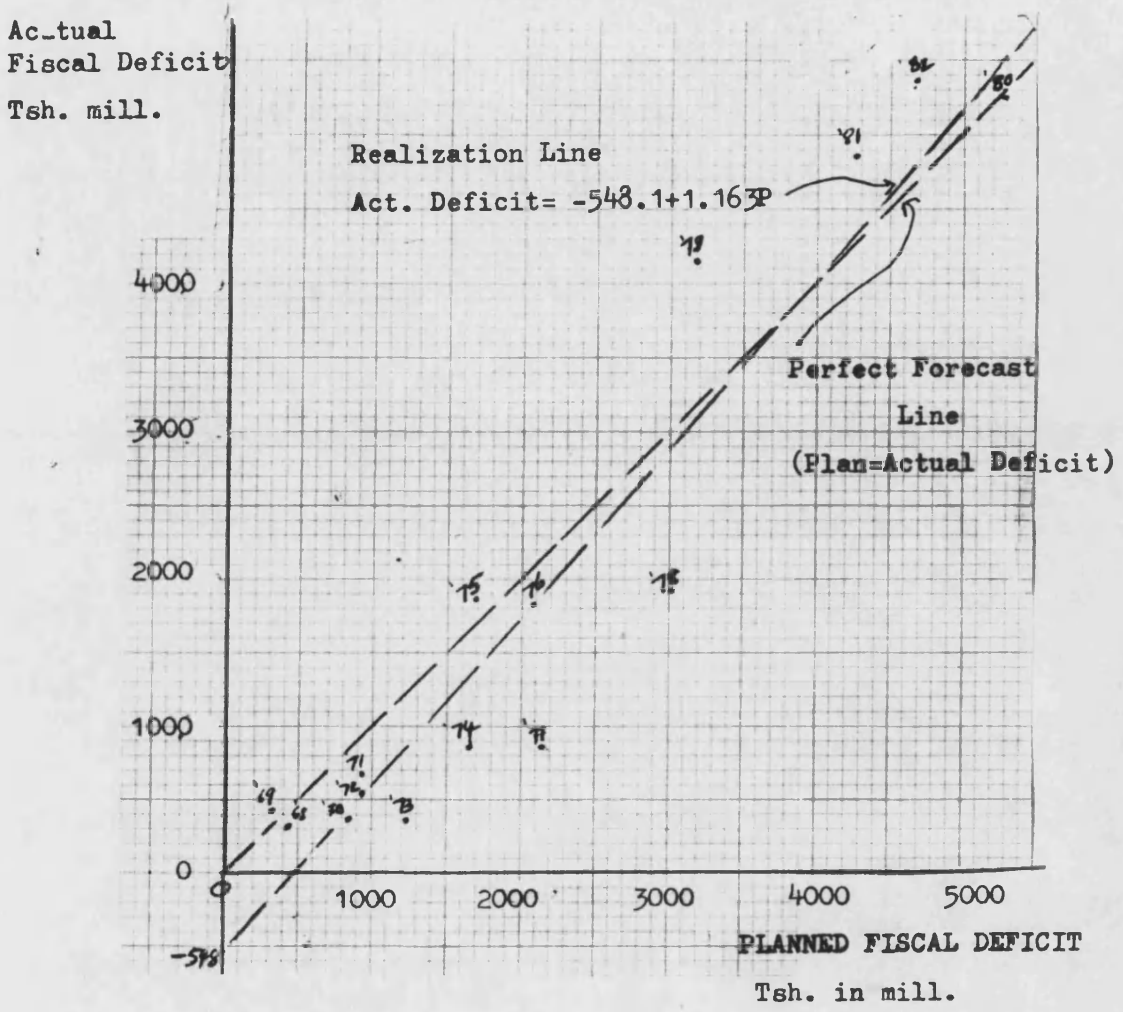
$$A = -548.103 + 1.163E \qquad R^2 = 0.90 \qquad (1)$$
$$\qquad\quad (1.97) \quad (11.09)$$

(A stands for Actual fiscal deficit, while E stands for the forecasts, the figures in parentheses are the t-ratios).

In view of the high value of $R^2 = 0.90$, and t-ratios, the regression function appears to be a strong one and, at the same time, the constant and the coefficient on forecast variable are significant too. The coefficient on the forecast variable which is greater than unity points to the tendency to underpredict. However, the significantly high negative value of the constant has the connotation that there has been some significant overpredictions on the forecast variable.[6] Therefore, taking into account a combination of the regression results and the error-inspection observation, it can be concluded that the tendency has been one of overpredicting. The latter point is also discernible from figure 12:1 below, whereby most of the plotted points lie to the left of the perfect forecast line.

On the other hand, when the fiscal deficit (actual and forecasted) and the errors are expressed as a ratio of GDP, we observe the following. The average deficit forecast stood at 10.34% while the

FIGURE 12:1 PLANNED AND ACTUAL FISCAL DEFICIT SCATTER PLOT.



average actual deficit stood at 9/4%. The average error (computed from absolute figures) amounted to 2.55%.[7] Since the same base of GDP has been used, ie actual GDP (Note 7 (b) op cit) to compute the percentage ratios, a comparison of the 10.34% (for forecast) with the 9.4% (for outturn) clearly points to the tendency to overpredict.

When the forecasting errors are examined for their trend pattern, they do not point to any distinguishable pattern. Such observation can be discerned from the results of a linear regression of such errors against time. Equation (2) below represents such results. The regression function appears to be very weak due to the

low value of $R^2 = 0.16$, which points to the insignificance association between the errors and trend. Furthermore, the t-statistics for the coefficient on time, tested at the 5% level of significance, appears to be quite low, pointing to the insignificant of the coefficient. Hence our conclusion that the errors do not point to any clear trend pattern.

$$E = -0.0423 + 0.00289(T) \qquad R^2 = 0.16 \qquad (2)$$
$$(-2.5) \quad (1.5)$$

(E stands for Error as a ratio of actual GDP, while T stands for Trend. The figures in parentheses are the t-ratios.)

III FACTORS CONSIDERED IN DETERMINING THE FISCAL DEFICIT AND A DIAGNOSIS OF THE ERRORS

It has already been mentioned above in a nutshell that the government fiscal deficit setting falls within the Finance and Credit Plan. The objective of the deficit, in general, is to satisfy the government spending requirements. A scrutiny of the Finance and Credit Plan blue print clearly indicates that three factors are considered in justifying the level of government spending, which in turn supports the level of deficit financing required. Such determinant factors, however, tend to underscore the need to mobilise resources and create capital investment as the major objective of deficit financing. The latter implies that the other roles which are usually satisfied through deficit financing, such as employment

stimulation, inflation control, balance of payments control etc are accorded less weight. The fact that a significant share of the borrowing is expected to come from external sources - as already discussed in chapter 11 (p. 426), clearly demonstrates the extent to which the objective is one of creating productive capacity, rather than being of stabilization nature. (This point was discussed further in Chapter 11 note 9).

What then are the factors considered?

The three factors considered include:[8]

(i) degree of implementation of the prior period plan

(ii) The aims and targets of the medium - term development plan (relevant only for period between 1964/65 and 1979/80 when there were medium-term plans prepared)

(iii) present committments

The successful use of the above factors, especially number (i) and (iii), depends on the timely availability of accurate and relevant data. This implies that both financial and physical reports for revenue and expenditure have to be available promptly. The weakness in respect of the information systems in Tanzania have already been underlined above (Chapter 10, 11) where the awful state of accounts and lack of timely financial and physical reports on projects was pointed out. To supplement what has already been exposed about the paucity of data systems, it might be worthwhile to point out what Resnick (1981: pp. 227-228) observed about techniques and limitations of data. He said, "many planning problems appeared at the technical level, most obvious was the universal problem of poor and unavailable data for planning. In addition to the usual data problems found in

third world countries eg short time series, poor quality in existing series coverage etc..... the accounting systems were not suitable for collecting those data, even when the needs were clear. For example, Resnick continues "although the country was committed to reducing imports, increasing the use of local materials, and conserving foreign exchange and planning its uses, no one knows the import content of government and public corporation expenditures, the methods of import procurement for projects, and the systems of payment for specific projects. No single institution controlled such information, and it was not possible to put it together from the knowledges of all the institutions involved". It can therefore be submitted that the use of such factors in the past remained only intentional because the pre-requisites for their use, i.e. the relevant background information, were not readily available. As regards factor number (ii) i e the aims and targets of medium-term development plan; it calls upon the planners to ensure that that the plans drawn are in line with the pre outlined development policies. It therefore requires project priorities to take into account longrun development objectives.[9] Thus, its nature as a determinant factor can be said to be more superfluous compared to the other two factors, although its observance is also of prime importance. How then can the latter factors discussed above account for the occurrence of the errors observed in Table 12:1 above?

In order to carry out a more comprehensive diagnosis of the forecasting errors, a further decomposition of the errors into the components has been done. The main components considered include; recurrent revenues (taxes and non-taxes), foreign grants, and

government expenditure which is decomposed further into recurrent and development categories.[10] The fiscal deficit errors which pointed to a tendency of overprediction, implied that the level of deficit envisaged in the plans could not be attained. This short-coming can be explained by performance in the component items appearing in Table (12): 2 below. Beginning with revenues (Taxes and non-taxes), the general tendency to underpredict (see chapt. (8): p236) had a favourable impact on the deficit. More revenues were realised than predicted, and this was likely to reduce local borrowing generally, although, as we shall see below, current expenditure overshoot more than offset such revenue increase. As regards external grants, the performance has been one of over predicting (see chapter (9) p298), which would appear to have an increasing effect on fiscal deficit. However, it has already been mentioned above that fiscal deficit is quite associated with both development projects and external funding. The external grants which enter the budget are normally related to development projects. Therefore, when there is short realization of such grant funds, it imposes a severe constraint on project implementation, with the consequence that local borrowing which would provide the counterpart funds is held-off. Thus, the level of fiscal deficit is held down because of the under realization of the external grants revenues.

On the part of current expenditure, there has been a tendency to under-predict too (chapter 10 p 346). The constraint that it might place on the fiscal deficit can be understood after the errors have been compared first with the recurrent revenues (taxes and non-taxes) - their main source of financing. As can be seen from table 12: 2

below, between 1967/68 and 1971/72 current expenditure forecasting errors were insignificant, and therefore, any recurrent revenue surplus or deficit achieved affected directly the fiscal deficit.

TABLE 12:2 DERIVATION OF FISCAL DEFICIT ERRORS USING BUDGET COMPONENTS

PERIOD	REVENUES (TAXES) (%)	+ GRANTS (%)	- CURRENT EXPEND. (%)	- DEVELOPMENT EXPEND. (%)	+ FISCAL DEFICIT (%)
1967/68	+1.1	0	0	+0.9	-0.2
1968/69	-1.2	0	0	+1.9	+3.1
1969/70	+1.1	+0.1	0	-1.1	-2.3
1970/71	+0.3	+0.1	0	-0.9	-1.3
1971/72	+0.4	-0.3	0	-2.9	-3.0
1972/73	0	+1.5	+1.2	-3.7	-4.0
1973/74	+1.9	+0.2	+2.5	-3.1	-2.7
1974/75	-1.7	-0.2	+5.3	-3.3	+4.0
1975/76	+0.5	-1.4	+3.8	-7.6	-2.9
1976/77	+3.0	-0.9	+2.2	-1.1	-1.0
1977/78	+1.1	-1.6	+0.3	+3.2	-2.4
1978/79	-0.5	-2.8	+3.9	-1.6	+5.6
1979/80	+0.3	+0.5	+3.9	-5.3	-2.2
1980/81	0	N/A	+1.9	-5.5	I/C
1981/82	+0.8	N/A	+3.6	-3.3	I/C

Note: 1. Error is defined as the difference between the outturn and the forecast of the item involved expressed as a ratio of actual GDP of year to which it pertains.
2. N/A - not available - in these years the grants amounts were presented in estimates books as a combined figure with loans.
3. I/C - incomplete

Source: The erros of Revenues, Grants and Expenditure have been computed from absolute errors presented in chapters 8, 9, 10, and 11 above. The GDP figures used are as appears in Appendix 1 below.

However, from 1972/73 to 1981/82, the excess of actual current expenditure over the forecast was quite pronounced. The excess expenditure was offset by excess in recurrent revenues where the errors were positive, but the extent of cushioning depended on the magnitude of the excess of both revenues and expenditures. Where the revenue errors are zero or negative, e.g. in 1972/73, 1974/75, 1978/79 and 1980/81, the expenditure errors either consumed away any anticipated surplus on recurrent budget, or it led to deficit financing on the recurrent budget, which eventually increased the overall fiscal deficit. Likewise, where the positive revenue errors could not cover the expenditure errors fully, as in 1973/74, 1975/76, 1979/80 and 1981/82, the impact was one of creating deficit situation on the recurrent budget, which again, affected the overall fiscal deficit. In short, therefore, the errors on the current expenditure increased the errors on fiscal deficit, the degree of which depended on the extent to which the errors in revenues provided a cushion.[11]

As regards Development expenditure the observed trend was one of underprediction (see chapt. 11 p 401). However, in this case the development expenditure errors cannot be used to account for the fiscal deficit errors because of the mutual interdependency between development expenditure and fiscal deficit, except of course where deficit financing is used for meeting current budget revenue shortages. In chapter 11 Table 11:8a it was indicated that the external funds' proportion of total financing of planned development projects was on the average, more than 50%, while the actual utilization of such funds amounted to about 40% of total development expenditure. The failure to utilize the external funds as planned was

also seen to hold-off the use of any local funds budgeted for the affected projects (p 429). And yet, the external funds (both grants and loans) and the local funds (mainly borrowing from banks and other financial intermediaries) comprise the chunk of the anticipated fiscal deficit. Thus, to provide a plausible explanation for the occurrence of the errors in fiscal deficit, we have to turn back to the earlier hypotheses (chapters 9 and 11) which attempted to explain the failure to use the committed external funds and to implement the development projects. Without going through much of what was argued to be the main constraints on funds utilization and project implementation, it suffices to summarize here-upon that stringent and rigid disbursement conditions on the part of the external funds coupled by poor project planning, poor project management and lack of proper and prompt monitoring and reporting, disrupted the plans, and in turn pushed down the expected level of fiscal deficit.

IV POSSIBLE REMEDIAL MEASURES

The determination of fiscal deficit in Tanzania has been seen to be based on non-formalarized approach. The absence of any systematic formula for generating the revenue and expenditure forecasts in Tanzania became apparent from the preceding chapters 7, 10, and 11 above. Consequently, the perverse repercussions of such inordinate forecasting are by and large reflected in the overall fiscal deficit.

Possible policy measures for reducing forecasting errors in revenues and expenditure have already been suggested in the respective chapters. Nevertheless, since we are now looking at the budget

structure in its totality, some additional measures which could help to reduce the deficit errors are suggested below.

Although the main policy thrust in setting the deficit levels is to mobilize resources for expansion of productive capacity, as was mentioned earlier, we should not, however, lose sight of the fact that government borrowing (from external and local sources) is not the sole but a component of the finance and credit plan. The remaining sectors, namely public corporations sector, and the private sector, have their share of borrowing too, especially from local banking institutions, set in the Finance and Credit Plan. Assuming that the latter plan is set with various policy objectives, for example, those of prices and employment stabilization, investment creation, balance of payments stabilization etc. a failure by the government to fulfil its share in the plan would inevitably undermine the attainment of such objectives, and, at the same time, deprive the other sectors what they might have needed for their operations and expansion. Therefore, with the indisputable evidence of continuous over-prediction of the fiscal deficit, there is need for urgent corrective action to be taken in respect of the management of the Finance and Credit Plan.

The present system of setting the Finance and Credit Plan has a time horizon of one year. Once the plan has been published and put into action on the mid-June Budget Day, it is rarely revised in the course of the year. The economy to which such a plan is applied is quite versatile, and the prevalent structural imbalances tend to render the plans less operational. Whatever planning assumptions are made are invalidated by the continuously changing economic circumstances. Thus, a way to over-come such problems is to shorten

the planning horizon. The time horizon that is being suggested here is one of 3 months. The binding plan figures should be those for the next 3 months, while those for the ensuing period should be treated as tentative until when they are confirmed. The shortening of the planning horizon is in addition to some earlier recommendations (chapter 8, 10 and 11) that the government should consider having a budget more frequently than once a year, say on a quarterly basis. We may find some justification for such a change in the fact that the same approach has been recommended for an economy like that of Britain which actually experiences less budget uncertainties than Tanzania's.[12] The shorter run budgets and plans would probably reduce the errors, although such a reform would inevitably lead to extra administrative costs.

Secondly, the government should endeavour to establish an autonomous "think-tank". Although the problems relating to data availability have already been mentioned, this does not imply that there is no raw data being generated through the existing administrative system. What lacks mainly is the machinery to capture and analyse it. Some ministerial staff, especially those of Treasury and Dev.Plan who are supposed to prepare reports of analytical nature, find themselves entrenched in routine functions. The Bureau of Statistics under Dev.Plan that is responsible for collecting data is not oriented towards analytical work. Hence, an institution that would provide a thorough analysis of fiscal matters ought to be created. During the field research and through discussions with Treasury and Dev.Plan officers, it became apparent that there were not analytical papers (reports) prepared about the state of government

sector finances inspite of the very many political discussions and also pressures from institutions like IMF and World Bank. Moreover, the absence of scientific end-users of raw data generated has adverse effects on information systems development.

Thirdly, as pointed out by Mosley,[13] the errors which arise from existing forecasting systems could be accepted as a structural datum and their removal could be made through the application of the realization function to the initial (raw) forecasts. The realization function appears as equation (1) above. The corrected forecasts produce smaller average errors i.e. amounting to 2.27% (see appendix 12, table 12A-1) compared to an average error of 2.55% (see p. 452 above) relating to the unmoderated raw forecasts. As further pointed out by Paul (1985 p.79), although the same method of correction could be applied to budgeting forecasts for future years, nevertheless, this is no guarantee of better forecasts in the future. Indeed, as can be seen from figure 12.1 above, deviations from the estimator are greater in recent years compared to earlier years.

Fourthly, the government should concentrate its efforts on the revenue sources which are less versatile. As regards local revenues the important sources which appeared to be more predictable (with smaller average errors and smaller coefficients of variation) were Income and Personal Taxes, Consumption and Excise Duties, Vehicle licences and Import Duties. So, the Treasury should concentrate on the latter. For the external revenues, the government should concentrate on those donor sources that it reckons it can exert sufficient influence (or control) in determining the flow of the committed funds.

V SUMMARY

The chapter has attempted to examine the process of forecasting of fiscal deficit in Tanzania. Fiscal deficit has been defined broadly to mean public debt. The importance of fiscal deficit in the economy of Tanzania was underlined, especially for its role to mobilize resources for creating productive capacity which has remained quite underdeveloped. Because of this vital role it was urged, a failure to fulfil the planned deficit was bound to aggravate the economic woes.

The analysis of the forecasts in relation to the deficit outturn revealed that the government had not been able to realize fully the levels of borrowings anticipated in the Finance and Credit Plan. The regression results pointed to a general tendency to overpredict the budget deficit. The latter problem of overprediction was also linked to the forecasting errors observed in the budget components. It was argued that a composition of the underpredictions in revenues, current and development expenditure had contributed to the overprediction in fiscal deficit. Moreover, the underprediction in revenues were more than offset by the underpredictions in expenditures. On the other hand, the fiscal deficit forecasting errors did not point to any particular trend over the period of study.

The core of the problems in forecasting fiscal deficit was seen to be embedded in the predictor factors which appeared to be beyond the control of the planner and budgeters. Since the fiscal deficit was an outcome of the planning of revenues and expenditures, it was argued that those weaknesses which were recorded in respect of the

latter were quite responsible for the outcome in fiscal deficit forecasting. The main problem, it was argued, lay in the field of information management, where it was pointed out that the existing information systems did not provide timely and accurate trend data that were an essential prerequisite to sound planning decisions. Moreover, the problems involved in drawing the external resources, by and large the most important source of borrowing, were seen to have exacerbated the problems of managing the fiscal deficit, mainly because the government lacked an effective control on the management of the external funds.

In considering the possibilities for reducing the descrepancies in fiscal deficit forecasts, three policy measures were suggested, which are over and above those already suggested in respect of the budget components in the preceding chapters. It was reckoned that there was a need to shorten the forecasting period from a year to three months, which would in fact put the planners in a position to effectively take into account the changing economic circumstances, and secondly, the government ought to establish an autonomous institute that would provide it with better analysed information, reports and ideas. The institute's quest for information would also be an input towards the development of an appropriate information systems in Tanzania. Thirdly, it was suggested that the forecasts generated through the present system should be corrected using the realisation function developed from past forecasts and actual data.

In view of the analysis results, our hypothesis that the forecasting problems have been caused by a failure to make proper assessment of the determinant (predictor) factors is confirmed. The

implications of a failure to generate reliable forecasts are indeed serious because, it means that in the short-run the annual plans are invalidated and at large, the management of the economy does not, therefore, follow the path anticipated in the medium - and long-term plans.

NOTES

1. Resnick I.N. (1981). The Long Transition: Building Socialism in Tanzania. London. Monthly Review Press pp 216-217
   Annual Planning was introduced as part of the Second five year plan (1969/70 - 1973-74), which had a goal of promoting Planning in each of the five years between major plans. Financial planning was introduced into the annual planning process in the fiscal year 1971/72 with the goal of setting priorities for the use of financial resources by government, public corporations, and private firms, which became guidelines for the allocation of loans by the country's lending institutions. Included was capital as well as recurrent liquidity requirements.
2. United Republic of Tanzania (1978) The Annual Plan pp 4-7 Dar-es-Salaam. Government Printers.
3. The case for a standardized budget is well put by Chelliah as he pointed out that if the fiscal balance is aimed at influencing, say aggregate demand or net worth of the public sector or money supply, then the fiscal deficit ought to be determined by considering budget items which have the desired impact on such policy targets.
   (Chelliah R.J. "Significance of alternative Concepts of budget deficit," IMF Staff Papers Vol. 20 No 3 (1973) pp 745-6.
4. Ibid, P 74
5. The classification refered to in this chapter is that used in the IMF's Financial statistics year book.
6. It has been pointed out by the National Institute of Economic

and Social Research that when the Constant in the A = a + b F is negative, it indicates to some systematic tendency for the forecasts to be too high.

(National Institute of Economic and Social Research 1983 'The assessment of the National Institutes forecasts of GDP 1959-82' National Institute Economic Review No. 105 (August) p. 32)

7. (a) The following computations were done to arrive at the following average measures:

(i) Average forecasted deficit as a ratio of GDP

$$\left(\sum_{i=1}^{n} Fi/N\right) / \left(\sum_{i=1}^{n} Gi/N\right) = 2169.4/20980.2 = 10.34\%$$

F are the forecasts, G stands for the actual GDPs, while N stands for the number of observations.

(ii) Average actual deficit as a ratio of GDP

$$\left(\sum_{i=1}^{n} Ai/N\right) / \left(\sum_{i=1}^{n} Gi/N\right) = 1975.5 / 20980.2 = 9.4\%$$

A is the actual deficits, G is the actual GDPs, while N is the number of observations.

(iii) Average Error as a ratio of GDP

$$\left(\sum_{i=1}^{n} Ei/N\right) / \left(\sum_{i=1}^{n} Gi/N\right) = (8021/15)/(314703/15) = 2.55\%$$

E stands for errors, while S stands for the actual GDPs. N is the number of observations.

(b)Both forecasts and actual deficits have been taken as a share of actual GDP because of lack of data on planned GDP. When the Annual Plan is prepared, there is hardly a mention of the expected GDP. The absence of GDP forecasts are better explained by the paucity of statistical data, which even makes the compilation of actual GDP equally flawful. This problem has been discussed in detail by Stein (1982: p.17) who pointed out that the methods of accumulating GDP data are faulty to the extent that they render the GDP statistics somewhat meaningless. Presumably, the realization that even the actual GDP figures are very unreliable, deters the Dev. Plan from preparing any GDP forecasts.

8. United Republic of Tanzania (1978) Annual Plan op cit p 5

9. The non-observance of the medium and long term plans when preparing the annual plans was pointed out in chapter 11 p.412)

10. Some remarks about accuracy of the results presented on table 12: 2 are in order. Ideally, the fiscal deficit forecasting errors (as a %tage of GDP) noted on p.457 above ought to equal to revenues (taxes and non-taxes) plus grants minus government expenditure. This equality does not, however, materialize because the budget data presented in different sources differ. The data being used in this study have been compiled from different sources. The end result is the disagreeing errors data in tables 12: 1 and 12: 2, and this

typically reflects the weak information systems that prevail in Tanzania.

11. The resultant higher budgetary deficits in a country like Tanzania due to increase in expenditure and the failure of tax revenues to catch up is well supported by Selwyn as he pointed out that "since it is easier for expenditure to move upward than downward, in countries where tax revenue cannot be adjusted easily to meet higher spending, budgetary deficits inevitably increase.

(Selwyn, Percy "The Planning of Public Expenditure Discussion Paper, IDS University of Sussex, DP 140 (October 1978) p 6

12. Mosley P. "When is a Policy Instrument not an Instrument? Fiscal Marksmanship in Britain, 1951-1984" Journal of Public Policy Vol 5 Part I (February 1985) p 79

13. Ibid pp 78-9

PART 4.

This part presents two important chapters. Chapter 13 looks at the problem of recurrent costs in the Tanzanian context. The analysis concentrates mainly on sectoral resource allocation, although the problem is also examined at macro-level.

Chapter 14 presents a summary and recommendations of the study. The latter concentrates only on the important issues observed in the study. More detailed summaries and recommendations can be found in the chapters where the analysis has been done.

CHAPTER 13

THE RECURRENT COST PROBLEM - AN EMPIRICAL INVESTIGATION

I INTRODUCTION

The historical practice surrounding the determination of both expenditures and revenues has been examined in the preceding chapters. However, such analysis did not examine in detail and on a long-term basis the more pressing problem of underfinancing of recurrent costs. The latter was highlighted in chapter (2) as being a critical problem in Tanzania. In the following analysis the problem will continue to be examined under the general hypothesis that the problems of underfinancing have been caused by improper specification of factors used in determining recurrent expenditure. The recurrent costs problem is studied as a long-term problem which ought to be seen as having developed from problems arising from the short-term determination of both recurrent and development expenditure.

Though in the past some efforts could have been made to cut down on recurrent expenditure during the budget annual cycle, so as to have a balance with recurrent revenues, however, in the long-run the cumulative effects of such cuts could develop into the problem of underfinancing which has come to characterise most of the developing economies.

The consequences of the underfinancing of installed capacity could be very severe. Government's social and economic goals get threatened, a situation that is now quite likely to continue into the

distant future. In this chapter the analysis will therefore attempt to establish the causes of the problem and the extent to which the problem has affected some sectors.

The paucity of information in Tanzania at macro and sectorial level will certainly restrict the analysis. Even where some data is available, they are not complete for all years. This implies also that some of the results obtained from the analysis have to be interpreted with caution.

The definition of 'recurrent costs' which was adopted in Chapter 2 above will continue to be the basis of discussion. To reiterate, the term 'recurrent costs' is defined as that part of expenditure in the operating budget which is periodic in nature, covering both personnel costs and materials, plant, spare parts, fuel etc needed to ensure the normal operation of the capital investment.'[1]

The order of the discussion is expected to take the following course. In Section II some tests are carried out to determine the magnitude of the problem in Tanzania. The analysis will focus at both aggregate and disaggregated data. In Section III the causes which have led to the emergence of the recurrent cost problem in Tanzania will be explored in some detail. In Section (IV) some policy propositions on how to tackle the problem are presented. This will draw ideas mainly from various authoritative sources which have looked at the problem in respect of LDCs. Moreover, the suggested policy measures ought to be taken as being supplement to the other suggestions made in the preceding chapters.

II THE RECURRENT COST PROBLEM IN TANZANIA: A SCIENTIFIC MEASUREMENT

In this section a number of indicators will be used to determine the magnitude of the recurrent cost problem in Tanzania. Such indicators will be applied to both aggregate measurements relating to the public sector, and sectorial measurements. On the latter, only a few ministries have been chosen for testing purpose due to either lack of data or data incompleteness. The Ministries (sectors) chosen include; Education; Health and Social Welfare; Agriculture, Forestry and Wildlife; Communication, Labour and Works; and Lands Settlements. Moreover, some detailed analysis of some subsectors of Ministries of Education and Health is expected to be carried out. However, due to the incompleteness of data used in the analysis, the results obtained will have to be interpreted with caution.

The first task that needs to be dealt with is that of identifying the parameters and variables which can expose the existence of recurrent cost problem. Various measures have been suggested to that effect: Gray and Martens have used the ratio of current expenditure on purchases of goods and non-wage services to government wages and salaries as an indicator of imbalance in current expenditure.[2] As added by Heller et al, Gray and Martens' ratio is a coefficient of effectiveness.[3] However, Heller et al have raised some criticism over Gray's et al ratio.[4] As they point out, "While it provides a rough measure of the existence of a recurrent cost problem in the present, it has the expected disadvantages of an aggregate measure in that inter-sectorial differences are not only lost in the aggregate, but may unduly bias the results". Secondly, they point out that the measure provides only a presumptive measure of an imbalance in the

allocation of resources in the sense that the adequacy of the amount of materials and supplies complementing manpower is subjective. The third criticism is that the measure provides no indication of the adequacy of the wages expenditure in a sector in an absolute sense. They add "satisfactory balance of input may be indicated when the level of wage expenditure is nevertheless inadequate". To overcome the shortcomings highlighted above, Heller et al suggest that it is preferable to evaluate the adequacy of other recurrent inputs relative to the manpower of a given sector, although the problems of aggregation and subjectivity would still remain, and issues relating to the quality of manpower assigned to a sector would be ignored.[5] The improved version of Gray's et al indicator produced more consistent results (identifying countries with recurrent cost problem from those without) over the sample of countries analysed compared to the original indicator.[6]

The other indicator which could be used to detect the existence of a recurrent cost problem, especially that caused by excessive demands on the expenditure side, is the one that examines the shares of total expenditure on:-

(a) general public services, defence, social security and welfare, interest payments etc, which are for non-development activities

(b) development activities including expenditure on wages, other goods and services.[7]

Finally, there are those indicators which diagnose the future likelihood of a recurrent cost problem for a country. The indicators which have been suggested by Heller et. al. include:-[8]

(I) Foreign financing as a share of total expenditure

(II) Capital expenditure as a share of total expenditure

(III) Foreign financing as a share of capital expenditure.

(IV) The buoyancy of revenue.

According to Heller et al, although all the latter four diagnostic indicators appeared to produce some form of results, however, it is only indicator (III) above which produced results that could differentiate countries with a serious recurrent cost problem from those without. It is pointed out that its strength lies in the fact that a high degree of capital expenditure financed from external sources allows a country to maintain a momentum of capital expenditure significantly higher than could be financed from the country's own domestic fiscal capacity. And if a country does not receive external recurrent financial aid, then the ensuing pressure for recurrent expenditure could outstrip the country's available financial capacity.[9]

The doubts expressed in respect of the indicators which are based on aggregate measurements are a sufficient warning to us that we should not put too much emphasis on them. This implies that we should look for indicators which are based on micro-data analysis. In this study I will examine the macro-data based indicators just briefly. At micro level the analysis will focus on the trend of financing sectoral operations. Worth noting here is the fact that the analysis does not extend to cost-effectiveness analysis which would establish whether the few resources allocated to spending agencies are put to efficient use. The emphasis in this chapter is on the volume of resources allocated.

The Ministries of Education, and Health have been chosen for

further micro-analysis. The latter involves looking at, say, the direct recurrent expenditure incurred per student over time, or the direct recurrent expenditure available for a doctor over time. A falling rate of financing would imply the existence of the recurrent cost problem, and vice versa.

Reviewing briefly the indicators which are based on macro data, the first to be examined is the ratio of 'other purchases of goods and services' to wages and salaries' for the period 1971/72 to 1980/81 based on recurrent expenditure. The results are presented in table(13):I. The year 1978/79 saw an abnormally high ratio of 273.4%, which can be attributed to the high expenditure incurred in respect of defence for financing the Uganda War which began in 1978/79.[10] However, the fluctuations experienced in the ratio can not lead us to a decisive conclusion.

TABLE 13:1: INDICATOR (NON-WAGE EXPENDITURE TO WAGE/SALARY EXPENDITURE) OF RECURRENT COST PROBLEM

Year	Other Purchase of Good & Services (I) (Tsh. in mill.)	Wages & Salaries (II) (Tsh. in mill.)	Ratio (I)/(II) (%)
1971/72	553	615	89.9
1972/73	725	803	90.3
1973/74	1163	1140	102.0
1974/75	1780	1594	111.7
1975/76	1469	1729	85.0
1976/77	2204	2019	109.2
1977/78	2291	2587	88.6
1978/79	5687	2080	273.4
1979/80	4005	2246	178.3
1980/81	5075	2871	176.8

SOURCE: IMF. Government Finance Statistics Yearbook, Vol. VIII 1983, P. 728

The second macro-data based indicator examined is the non-wage expenditure per manpower. The results appear in table 13:2 col III below. They point to a pattern more or less the same as depicted in table 13:1 above. The rate fluctuate, in spite of an upward trend, and we can not draw some conclusions about the existence of the recurrent cost problem.

The third macro-level indicator examined is the ratio of non-development oriented expenditure to total expenditure. The purpose of this analysis is to detect if the former has been demanding an increasingly higher share, which would imply that the recurrent cost problem exists. The results appear on table 13:3. The interperiod fluctuations appearing in col. III clearly discounts the idea of lasting demand on expenditure by this category of expenditure. Once again it is difficult to decide whether the recurrent cost problem exists or not.

TABLE 13:2. INDICATORS OF RECURRENT COST PROBLEM

Year	Expenditure on other Purchase of Goods & Services (I)	Number of Public Service Employees (II)	Expenditure Per Employee III= (I)/(II)
	(Tsh. in mill.)		(Tsh.)
1971/72	553	98575	5610
1972/73	725	104083	6966
1973/74	1163	107934	10775
1974/75	1780	103010	17280
1975/76	1469	110780	13261
1976/77	2204	127280	17316
1977/78	2291	140950	16254
1978/79	5687	177667	32009
1979/80	4005	181984	22007
1980/81	5075	209452	24230

SOURCE: United Republic of Tanzania. (Various Years) The Economic Survey. Also, IMF. Government Finance Statistics Year Book, Vol. VIII 1983 p. 728

TABLE 13:3: SHARE OF GENERAL EXPENDITURE ON TOTAL EXPENDITURE

Year	Total Expenditure (mill shs) I	General Expenditure# (mill shs) II	Ratio (%) III= II/I
1967/68	1409.1	639.2	45.4
1968/69	1646.5	651.1	39.5
1969/70	2137.2	888.9	41.6
1970/71	2460.6	922.5	37.5
1971/72	2665.0	1023.9	38.4
1972/73	3182.2	1276.2	40.1
1973/74	3990.0	1263.0	31.7
1974/75	6076.0	2133.0	35.1
1975/76	5968.2	2220.7	37.2
1976/77	7946.8	2986.7	37.6
1977/78	8894.1	3476.1	39.1
1978/79	13035.9	6265.1	48.1
1979/80	14413.0	6461.4	44.8
1980/81	14895.0	6621.6	44.5
1981/82	18997.5	8955.2	47.1
1982/83	18993.0	9524.3	50.1

Note: # This expenditure covers general public service expenditure, defence, interest payments, pensions, social security and welfare services.

SOURCE: IMF.1983. Government Finance Statistics Yearbook. Vol.VIII

United Republic of Tanzania. (Various Years). Economic Survey

When the analysis is carried out at Sectorial (Ministerial) level, to a large extent the results remain indecisive because of inconsistency in data available. The analysis done is one of looking at the share of 'other goods and services' to 'wages and salaries' for a number of Ministries. The results appear in Table (13): 4 below. Although the data were collected from official government sources, the extreme variations between two consecutive years, and also the lack of data (incompleteness) for certain years clearly point to some imperfection in recording system. This problem is complicated further, I presume, by the various reorganisations (separations and merging of ministries) which take place quite often, and which may cause trend figures to vary widely if proper data recording measures are not taken. Therefore, the very high ratios which appear for some years which may indicate a favourable allocation of resources to the operations and maintenance sector, have to be interpreted with caution. For the Ministry of Education, the ratios appeared to be taking a downward trend between 1967/68 and 1980/81. As can be seen from table (13): 4 above, between 1967/68 and 1972/73 the ratios varied between 594% to 3603%, but after this period the ratios ranged between 161% and 340%. The latter results could clearly be a pointer to the development of a recurrent cost problem.

The other Ministry with interesting results is that of Health and Social Welfare. As can be seen from table (13): 4 above, the ratios appear to be taking an upward trend, changing from 102% in 1967/68 to 421% in 1981/82. This has the implication that more resources have been going to the operations and maintenance over that period.

TABLE (13) 4: RATIO OF EXPENDITURE ON OTHER GOODS AND SERVICES TO WAGE EXPENDITURE

PERIOD	1967/68 %	1968/69 %	1969/70 %	1970/71 %	1971/72 %	1972/73 %	1973/74 %	1974/75 %	1975/76 %	1976/77 %	1977/78 %	1978/79 %	1979/80 %	1980/81 %	1981/82 %
MINISTRY OF EDUCATION	2281	594	694	3471	3796	3603	233	INC	257	223	161	298	313	340.5	INC
MINISTRY OF HEALTH & SOC. WELFARE	102	104	174	215	165	242	215	INC	153	219	481	465	495	495	421
AGRICULTURE FORESTRY & WILDLIFE	297	87	161	142	2122	1595	1718	INC	139	365	120	423	920	295	263
COMMUNICATION LABOUR & WORKS	380	313	754	2226	2226	2220	238	INC	INC	INC	INC	614	348	INC	INC
LANDS AND SETTLEMENTS	28	32	25	1049	204	221	357	INC	63	84	175	191	285	230	222

SOURCE: Computed from data of Ministries as reported in: United Republic of Tanzania. (Various Years). Appropriation Accounts.

However, the data presented here is only for the Central Ministry and it does not include the expenditure channeled through the regional authorities for running of regional-based hospitals, dispensaries and Health centres. A better perspective of the total health spending will be gauged when a further analysis is shown below. The other three remaining Ministries, namely Agriculture and Forestry, Communication, Labour and Works, and Lands and Settlements, do not give clear trends as in the case of the two former Ministries. The fluctuations and the incomplete data in such Ministries preclude the drawing of meaningful conclusion.

When the recurrent cost problem is assessed using more detailed micro level indicators, the results were quite conclusive. The analysis is done on operations of the Ministries of Education and Health. In the Ministry of Education, two very important sub-sectors were considered. These were the Primary Schools and the Secondary Schools sub-sectors. In Health, the sub-sectors considered included Curative Services, Preventive Services, Rural Health Centres, and Dispensaries and Clinics. In both cases, both financial and human resources flows over the period were considered.

Starting with the Primary Schools sub-sector, two important measures were computed. The first is the students-teacher ratio, and the second is the average expenditure per student. As can be seen from table (13): 5 below, the students-teacher ratio has been fairly stable over the period, although between 1972/73 and 1976/77 some strain appeared to have been building up on the teachers. Worth noting also is the fact that over the 1967/68 - 1981/82, the teachers' increase was 412%, while the students increase was 374%11. Though the

analysis does not take into account the quality of teachers involved, the staffing efforts taken so far are significant. Expenditure per student in nominal terms appears to have grown modestly inspite of some fall in early 1970s. But in real terms, it is quite clear that the problem of financing operations exists. By 1981/82 only a quarter of what was being spent in 1968/69 was allocated to each student. And bearing in mind that the teachers wages are included in this rate, which actually never see a retrenchment, all it implies is that the cut down has been on other goods and services expenditure, which has deprived the teachers the supportive services they require for effective teaching.

TABLE 13:5. PRIMARY SCHOOL RESOURCE ALLOCATION INDICATORS.

YEAR	67/68	68/69	69/70	70/71	71/72	72/73	73/74	74/75	75/76	76/77	77/78	78/79	79/80	80/81	81/82
STUDENTS/ TEACHER RATIO	46	47	47	45	47	48	51	53	50	48	46	42	41	43	43
N.E/ STUDENT	81	173	177	152	167	INC	101	147	163	198	198	197	220	232	299
R.E/ STUDENT	81	173	171	140	143	INC	66	71	76	76	76	67	58	48	48

N.E/STUDENT- Nominal Expenditure per Student

R.E/STUDENT- Real Expenditure per Student

NOTE. The nominal expenditure has been deflated using the National Price Index.

SOURCE: Computed from figures appearing in Appendix 13 Table 13A-1

Moreover, if we compute a rough measure of recurrent expenditure implication of cumulative investment, ie. the primary school recurrent budget divided into cumulative development expenditure on an annual basis, we get a coefficient of between 1.5 and 3.0 for the years between 1970/71 and 1981/82.[12] When such coefficients are compared to Heller's coefficients on primary schools of between 0.06 to 7.0,[13] clearly those of Tanzania are below the average of Heller's figures (equal to 3.47), which could be an indication of underfinancing.

On Secondary Education, the students-teacher ratio as appears in table (13) 6 below, again appears to be very satisfactory. The range has remained between 17 and 21 students per teacher. However, as far as the direct expenditures for running the schools is concerned, some of the data available were quite incomplete. Nevertheless, for the few years that data could be obtained, the following results based on table (13): 6 can be observed. As regards expenditure for running schools column 2(b) between 1975/76 and 1979/80, the allocated expenditure per student in real terms assumed a downward trend, although there was a modest increase in 1980/81 and 1982/83. For the second category of expenditure considered, that of maintenance and running of plant, equipment, motor vehicle etc (column 3(b) it can be seen that the expenditure allocated in real terms declined quite significantly between 1975/76 and 1982/83, except for 1977/78, although there had been an upward trend in earlier years. This decline can also be observed for expenditure on general expenses (column 4(b)) especially after 1977/78. The resource allocation was more uncertain on the special expenditure, column 5(b), where there

has been wide variations. Such declines in allocations imply that the secondary schools have been hard hit by this problem of underfinancing, a situation that has also been highlighted by Green et al.[14]

TABLE 13:6. INDICATORS OF RESOURCE ALLOCATION TO SECONDARY SCHOOLS.

YEAR	Ratio of students to teacher	Expenditure on running of schools (3300) per student		Maintenance and running expenditure (1400) plant, machinery, equipment etc per student.		School general expenses on utilities, office expenses uniforms etc per student (code 1300)		Special expenditure (1800) Renewal of equipment, motor vehicles, Plant etc	
	Col. 1 NO	Col. 2a Nominal shs	Col. 2b Real shs	Col. 3a Nominal shs	Col. 3b Real shs	Col. 4a Nominal shs	Col. 4b Real shs	Col. 5a Nominal shs	Col. 5b Real shs
1967/68	21	INC	-	14	14	INC	-	14	14
1968/69	20	INC	-	23	23	120	120	38	38
1969/70	19	INC	-	INC	-	INC	-	INC	-
1970/71	19	INC	-	41	38	182	168	36	33
1971/72	19	INC	-	37	32	120	103	7	6
1972/73	21	INC	-	57	44	166	129	8	6
1973/74	19	INC	-	79	51	141	92	22	14
1974/75	20	INC	-	INC	-	INC	-	INC	-
1975/76	18	1019	491	76	36	108	52	6	3
1976/77	18	970	419	80	35	128	55	7	3
1977/78	17	1178	453	103	40	154	59	26	10
1978/79	18	1193	406	98	33	160	55	63	21
1979/80	18	1102	288	126	33	126	33	82	22
1980/81	18	1878	391	116	24	116	24	93	19
1981/82	19	INC	-	INC	-	INC	-	INC	-
1982/83	18	3636	461	132	17	132	17	76	10

$ The nominal figures were deflated by general Price Index to get real expenditure

NOTE: expenditure per student; INC - incomplete

SOURCE: computed from Appendix 13 Tab.13A-2

As regards Health, some financial and non-financial resources allocation measures were also examined. However, due to incompleteness in the detailed annual data, a shorter time span was considered for analysis. Moreover, for lack of complete data, it was not feasible to develop cumulative investment figures for comparison with the recurrent expenditure. Nevertheless, for the limited data that was available the following was done. To begin with, the expenditure allocated for the functions of curative, preventive and rural health services were evaluated in relation to the medical personnel as a rough indicator of resource flow to the health sector. When we consider the indicator based on the senior medical personnel, ie doctors, Assistant Medical Officers and Medical Assistants, it can be observed from Column 2 of Table (13):7 below that in nominal terms the expenditure available per personnel grew just modestly. In real terms (column 2 (b)) there was a very sharp fall in the resource allocated, from sh 117,000 in 1972 to shs 38,000 in 1982. A similar situation is observable when all the staff are taken into account - column 3 & 3(b). Moreover, when the expenditure is related to the number of patients (in-and out-patients) who attended hospitals, dispensaries and health centres it is observed that in real terms, the expenditure per patient declined from shs 2.07 in 1972 to 1.13 in 1982. The latter appears in column 4(b) of Table (13):7. It is worthwhile to note that while financial resources available to both medical staff and patients declined, on the other hand, the number of doctors increased by 92% and rural medical aids by about 435% at the same time. The deterioration in services relative to expansion in capacity that has taken place is further corroborated by Green et al.

They pointed out that "trained personnel are increasingly available but drug, vaccines, equipment, kerosene for refrigerators and fuel for transport increasingly are not". They continue, "by 1982/83 drug imports were 1/3 optimal levels on the national 300 basic drug list versus about 2/3 in 1979/80" [15] The latter clearly shows that the problem of financing health operations has continued to worsen overtime, consequently widening the gap between what has been provided and is functioning and actually available to people.

TABLE 13:7. INDICATORS OF RESOURCE ALLOCATION FOR HEALTH PURPOSE.

YEAR	EXPENDITURE PER SENIOR MEDICAL STAFF ≠		EXPENDITURE PER STAFF*		EXPENDITURE PER PATIENT	
	NOMINAL	REAL	NOMINAL	REAL	NOMINAL	REAL
	Col. 2	Col.2b	Col. 3	Col3b	Col.4	Col.4b
	'ooo shs	'ooo shs	'ooo shs	'ooshs	shs	shs
1971/72	140	117	24	20	2.41	2.07
1972/73	INC	INC	INC	INC	INC	INC
1973/74	202	124	35	22	3.05	1.98
1974/75	230	113	40	20	3.70	1.90
1975/76	203	87	37	16	3.56	1.71
1976/77	209	77	37	14	4.00	1.73
1977/78	270	79	43	14	4.77	1.83
1978/79	234	68	40	12	5.03	1.71
1979/80	224	54	38	9	5.25	1.37
1980/81	248	47	42	8	6.25	1.30
1981/82	258	38	43	6	7.00	1.13

NOTE: ≠ includes Doctors, Assistant Medical Officers and Medical Officers.

* includes Doctors, Assistant Medical Officers, Medical Officers, Nurses, Midwives, Rural Medical Aids and Health Auxiliary.

$ The nominal figures were deflated using the general price index to get the real figures.

INC Incomplete - data not obtained in sufficient details

Both In and Out patients for hospitals, Dispensaries and Rural Health Centres are covered.

SOURCE: Computed from Data appearing in Appendix 13 Tab.13A-3

Finally, I will examine an indicator which diagnoses the future likelihood of a recurrent cost problem. The measure which was identified above as being effective is the ratio of foreign financing as a share of capital expenditure. Some analysis regarding the latter was done in chapter 11 (Table 11:8(b) p. 426). The unweighted average for the period 1967-83 was 43%, with a range of 23.7% to 62%. When the latter ratio is compared to intercountry average ratios appearing below, which were compiled by Heller et.al. (1985: p.47) for countries which were/were not experiencing a recurrent cost problem over the period 1977-81, we are tempted to infer that the Tanzanian situation is less severe. Even Heller's (et.al ibid.) ratio for Tanzania of 37.6% is very low, which would imply that Tanzania is unlikely to encounter a recurrent cost problem. Nonetheless, the problem exists in Tanzania in principle, and therefore, some of these ratios have to be interpreted with caution, for two main reasons. Foremost, they can not be taken as the only perfect measure of the recurrent cost problem. There could certainly be other measures, such as those used above by me, which clearly point to the existence, and hence a future likelihood of the problem. Secondly, the years upon which the analysis is based could have been the period of low activity for certain countries, which would certainly bias the results.

Nevertheless, on the strength of some of the high yearly ratios observable in chapter II which are larger than some of the intercountry averages given above, this indicator certainly gives enough clue to suspect the development of a recurrent cost problem.

Ratios for Countries with recurrent cost problem

	Average Ratio
African group	64.5% ie Tanzania ratio was 37.6
Asian group	47.8%
Latin American group	56.8%

Ratios for Countries without recurrent cost problem

African group	45.7%
Asian group	31.8%
Middle East & Latin America	13.1%

III POLICY DEFECTS CONTRIBUTING TO THE PROBLEM OF RECURRENT COSTS

In Section II above, some of the tests carried out showed that the recurrent cost problem exists in the Tanzanian public sector, especially in the more recent past. Such results are further confirmed by a World Bank Survey which pointed to the existence of the problem in Tanzania.[16] Moreover, the existence of the problem could easily be inferred from the exposition made in chapter (3) above where the salient features of the economy were examined. In the latter, some structural economic problems were seen to be afflicting the various productive sectors, which had led to a fall in general output and sectorial output, especially in agriculture and industry. The interdependence of the various sectors has meant that the problems related to a fall in production spread to the public sector as well. The fact that the recurrent cost problem in the public sector is rooted in structural economic problems is well demonstrated by Howell as he points out that such problem could be termed a "structural" rather than 'cyclical' one.[17]

In view of what has been observed above, what then are the specific policy measures which have caused this problem? Those factors which are thought to exacerbate the problem can be classified into two groups. There are those related to inadequacy in fiscal policy measures, or what Heller et al have termed 'overall budgeting constraints', and secondly, there are those related to misallocation of resources in the economy.[18]

(a) Overall budgeting constraints

The first cause of the problem is the failure of fiscal policy measures to mobilize enough resources to fund all the uses to which they could be put. The inadequacy of revenue was identified by the World Bank Survey as being a big constraint.[19] Moreover, such revenue shortfalls are further substantiated by the occasional existence of recurrent budget deficits, especially in the last 1970s and early 1980s, as indicated in chapter 12 (p 458) above, although they (deficits) give only a partial impression of the problem because they do not, however, represent the optimal level of revenues and expenditures which would ameliorate the recurrent cost problem. The inadequacy of revenues can be examined in two ways. First, is how a country's tax effort compares to its taxable capacity, and secondly, whether the authorities' overall economic policies are conducive to the economy performing near to its potential level.[20] In considering the country's tax revenue trend in Chapter 6 (p.154-155) above, it was observed that the revenues had been growing just modestly. However, a comparison of Tanzania with other developing countries point to some modest effort in mobilizing tax revenue. The comparison is based on Tait's et al work, who did analysis for more than 47 developing countries.[21] In general, Tanzania's performance in mobilizing resources from taxation appear to be above the average of the other countries. Its share of taxes in GNP improved tremendously between 1969-71 and 1972-76. While in 1969-71 the tax ratio in GNP was 13.9% (Average for 47 countries was 15.1%), during the 1972-1976 it had risen to 18.9% (Average for 47 Nations was 15.8%). The data appears in Table (13): 8 below.

TABLE 13:8. TANZANIA'S TAX PERFORMANCE COMPARED TO AN AVERAGE OF 47 DEVELOPING COUNTRIES.

	TOTAL TAX OVER GNP	DIRECT TAX OVER GNP	INDIRECT TAX OVER GNP	INCOME TAX OVER GNP	TRADE TAX OVER GNP	PRODUCTION TAX OVER GNP
TANZANIA	18.94	5.96	12.99	5.86	4.51	8.48
AVERAGE	15.8	5.15	9.81	4.77	5.55	4.26

SOURCE: Tait A.A. et.al. op.cit. p.156

Moreover, over the periods 1969-71 and 1972-76, Tanzania improved its index of International Tax Comparison (ITC) from 1.034 to 1.336. For 1969-71 using the latter index, Tanzania was ranked 21st among the 47 nations analysed.[23] Furthermore, a look at the development of the ITC indices between 1966-68 and 1972-76 indicates that Tanzania was in the group of high rising tax effort.[24]

Even, when the sample of countries was increased to 63 and ITC indices computed, Tanzania still falls in the group of countries with a high ITC index (greater than 1.10).[25]

Although Tanzania does not emerge as the best in mobilizing taxes, nevertheless, the progress that is so far discernible ought to be appreciated. This implies, therefore, that the source of the problem in revenue mobilization does not lie mainly with tax effort, but rather with economic policies which retarded economic growth. It has already been mentioned above how production has been falling in

the key productive sectors. The major factors which have often been emphasized for the fall in production in LDCs relate to inconducive economic policy measures. As summarised by Heller et al, such policies included, inter alia, limits on prices of key agricultural commodities, interest rate controls and credit rationing, excessive government employment policies, over-valued currencies, and inefficient and over-extended public enterprises.[26] Failure to initiate timely policy adjustments to correct for such practices, as was the case in Tanzania,[27] led to economic stagnation which in turn eroded the tax bases. A good example of a base that lost its importance is the foreign trade which until 1969/70 (see table (6):1 (b) p. 164) had been a major source of revenue. The fall in tax income from such a source could be explained by the fall in exports.

The second major constraint contributing to the problem is the failure of fiscal policy measures to control excessive growth in non-development expenditure, which tended to impose a great pressure on the revenues mobilized. The expenditure involved is that for general services (civil, culture, defence, information and broadcasting); debt service and interest payments, subsidies and transfers to individuals, international organizations, and public enterprises. Policies such as those aimed at employing all secondary schools and college graduates contribute to the growth in this areas of spending. Also the government's policy to support Liberation Movements around its boundaries, especially on the Mozambican and Ugandan side, was bound to keep defence spending high.[28(a)] As pointed out by Jennings, these non-development expenditures are oftenly given higher priorities over other expenditure needs, especially when there is pressure for

cutting spending.[28]

The third major constraint is related to the built-in tendency for certain categories of expenditure to generate a greater demand for expenditure than others, consequently putting greater pressure on the limited revenue resources mobilized. The categories of development-oriented expenditure which have this tendency to generate higher spending needs are those related mainly to basic needs such as health and education etc.[29] As it has been pointed out by Carruthers, "basic needs projects in health, education and rural development have higher 'r' (recurrent expenditure coefficients) values, but also that the revenue prospects (with the exception of housing) are worse than directly productive projects."[30] The latter idea about higher 'r' values is confirmed further by Heller's 'r' coefficients apeparing in Appendix 13 Table 13A - 4. From the latter, the 'r' coefficients in education and Health sub-sectors lie above 0.11 mostly, while the other sectors such as agriculture, construction, roads, etc they hardly go above 0.10. Thus, for Tanzania which has been putting tremendous emphasis on basic needs, it should be expected that the recurrent expenditure will be rising quite rapidly. Hence, the emergence of the recurrent cost problem.

(b) Misallocation of resources

The next categories of factors causing recurrent costs problems are those related to institutional weaknesses. Foremost, is the problem of weak budget planning and forecasting. The planning process in Tanzania which evaluates projects in the light of development goals and considers their recurrent expenditure implications prior to

project approval is certainly deficient. Projects have been accepted, either financed locally and/or externally, without considering their future expenditure implications. This institutional weakness led to significant expansion in development investment in the country compared to the growth that was expected in revenues (local tax incomes, fees charged and foreign earnings etc) to finance the recurrent costs. For example, while monetary gross capital formation remained fairly constant over the 1972-82 period, ranging between 20% and 25% of GDP, exports fell from 23.2% in 1972 to 7% (as a ratio of GDP) in 1982. This export fall would certainly limit imports in every sector.

Another factor that is closely related to deficiencies observed in the planning process and which could be an obstacle to the ideal of optimal resource allocation, is that of separating the development budget from the recurrent budget.[31] The repercussions of this separation is aggravated further by the existence of two Separate Ministries (Finance, and Planning and Economic Affairs) which deal with the two budgets. In Tanzania, over the study period, there has always been indecision as to whether the activities of Finance and Planning should be under one Ministry or under two separate Ministries, although for most of the time they have remained separate.[32] Since decisions on the two budgets follow separate lines of approval, it has always been the case that those handling development budgets fail to take account of the recurrent cost implications of projects, particularly as a large proportion of the development budget is externaly financed.[33] The development budget preparation practice until 1983/84 never incorporated recurrent costs

implications in its proposals. It is only recently (1984/85) that this idea has been included in development budget preparation (evidenced by new forms designed to tap that information, which are a part of the guidelines issued by the Ministry of planning and Economic Affairs.) In fact, the weaknesses already highlighted in chapter (10) and (11) on the forecasting of expenditures, which included, inter alia, inadequacy of information or data, shortages of skilled and experienced finance and accounting manpower, poor financial' management skills etc, contribute further towards the problems of having a proper coordination of the two budgets, which for the time being fall under the two authorities.

While the factors discussed above could be said to play a more central role in precipitating the problem of recurrent costs, there are others also which contributed to the worsening of the situation. For example, external shocks manifesting in worsening terms of trade, particularly the rise in oil (petrol) price followed by a rise in manufactured products and a disproportionate increase in prices of primary products exported by Tanzania in the 1970s and early 1980s (Chapter 3 page 70), indeed put a serious burden on the government for the importation of inputs required for all sectors. Secondly, because of the diversity of donors who support Tanzania, each of them preferred to embark on a new project rather than pick on a project already financed by another donor. This phenomenon having been encouraged by institutional weaknesses within Tanzania itself, as highlighted above, and as further discussed in detail in chapter 9, led to the excessive pile up of completed projects that the economy had no sufficient resources for operations and maintenance. However,

this donor's attitude of looking at new projects only is easing away after the realization of the gravity of the problem of operations and maintenance. Many donors had been reluctant to finance the operating costs inspite of a call to that effect by DAC.[34] But now some donors have found it necessary to provide financial resources for budget programmes, especially for rehabilitation of investment in sectors such as transport, agriculture, etc.[35] which have been crumbling down over some years for lack of maintenance. It has already been pointed out (chapter 9) that the donor emphasis now is on programme lending for structural adjustment purpose.

The effects of the recurrent cost problem in both manpower and material terms have been severe for every sector of the economy. The irregular and insufficient supply of imported raw materials and spare parts due to the shortages of foreign exchange have led to a strangulation of activities of all industries. Secondly, aging and out-of-order facilities do not get proper maintenance. Consequently, the process of decapitalization has been hastened. Generally, the vicious circle of bottleneckes, shortages etc. put the economy in debilitating crisis, which threatens the living standards and the basic needs fulfillment of much of the nation.[36] And as Green et al further point out "Unless some way is found of restoring economic activity to its previous levels and/or resuming economic growth, improvements in health, education, sanitation and nutrition will not be possible and even present achievements in these fields may come under severe threat.[37] Constraints in manpower supply also contribute to the worsening social services. Expansions in health, education and community welfare facilities have consequently

engendered a greater demand for such services which have placed a greater strain on personnel available. And yet, as observed in Section II above, resources allocated for such services in real terms have been declining overtime.

IV POSSIBLE REMEDIAL POLICY MEASURES TO EASE THE RECURRENT COST PROBLEM

Various authoritative sources (Heller, 1979: Heller and Aghevli 1985; Gary and Martens, 1983, Jennings, 1983; etc) have tried to pinpoint some policy measures which, if pursued by the countries that are experiencing this problem of underfinancing, could at least bring some recovery. But there is also some form of consensus over the difficulties that loom over these countries which would preclude any quick recovery. Structural weaknesses are seen as a great obstacle towards increased domestic resource mobilization. As Jennings points out, "given their structural weaknesses, raising each country's recurrent revenue recovery factor through improved fiscal systems, domestic savings, and user charges, will be limited."[38] Moreover, where the tax effort is already high as was pointed out above for Tanzania, and where the tax bases have been eroded considerably due to the economic stagnation, a more ambitious tax effort could be a disincentive to the productive sectors.

The structural weaknesses also restrict external resource mobilization arising from exports of goods and services. And yet these foreign revenues appear to be the critical factor towards economic recovery. Therefore, any policy measures taken must aim at, first, breaking the 'vicious circles' of shortages and bottlenecks in inputs supply, and secondly, to ensure that any economic recovery or growth set in motion is sustained. It appears, therefore, that the most significant measure that ought to be taken to break the 'vicious circles' is for the country to receive more concessional aid. As Jennings points out, "a positive response by donors to assist in the

recurrent cost problem is therefore essential."[39] The aid should be targeted more at programmes aimed at macro economic policy reforms. Support to the structural adjustment programmes would therefore be very necessary at the moment.[40] The response from the donors to meet such resource needs has never been outrightly forthcoming. There has of course been some flexibility in extending the donations for recurrent costs, although not directly as many recipient countries would wish to have. As pointed out by Howell, (1985 pp 13-14), some donors provide some allowances and operating costs for additional project-led activities. For example, in the sector of agriculture, a substantial proportion of expenditure on the projects is, in effect, recurrent costs support although it comes under a capital heading. Also some donors have increasingly become compelled to finance local recurrent costs to protect their capital investments, or even to get projects approved where local contributions simply cannot be provided. The latter has led to the "rehabilitation and maintenance" projects. Moreover, there are other forms of aid which indirectly contribute a form of local recurrent cost financing. These include debt relief, export compensation schemes, food aid, and balance of payments support. However, most donors remain reluctant to go beyond their current practice of financing only offshore recurrent costs. The reason advanced by Howell (1985 p.14) for such reluctance is that the donors find it difficult to monitor and assess the impact of aid investment if 'funds' disappear into a general revenue account. To provide for the local recurrent costs would therefore represent an abdication of responsibility for overseeing their investment. While the latter holds to be true, however, there are other reasons as well

which could account for the donors' reluctancy to give general (budget) funds support. Some interests which could motivate a donor to grant aid were highlighted in chapter 9 above. One basic interest was seen to be the promotion of its own strategic, political and commercial interests. Donor's domestic political considerations as articulated by the aid lobbies, would certainly be interested in seeing that aid granted brings home the benefits of, say export promotion, political and ideological control, and even security strategy. Unearmarked aid would give the recipient greater freedom to use it at discretion. So, any aid disbursement measures compromising such objectives would be less palatable to the lobbying groups. The latter implies that, for the hard pressed nations to bring under control the recurrent cost problem, the donors have to change their attitudes towards aid policy. They should give more of non-project aid which would help to ease mainly the problem of imported inputs for operation and maintenance.

But, while we criticize the donors for being less willing to provide local recurrent cost support, we also need to extend the criticisms to those recipient countries, Tanzania being an example, which have failed to take advantage of the aid available, for their inflexibility to initiate in time economic policy changes which would tie up with donor's expectation of what ought to be the threshold (Cassen et. al. 1986: pp. 90-92).

Although the thrust of the proposition made above is for more aid to be provided to Tanzania, however, the dangers of having the public budget and other institutions rely on aid revenues for their recurrent costs, ought to be spelt out. The distortion experience gathered so

far related to development projects which depended on aid funds mainly should be reckoned with and brought to bear upon decisions made regarding reliance on aid for local recurrent costs. Such foreign dependency can only lead to further loss of control of national plans and objectives, political independence etc. How suspect external aid is, is well put by Nyerere. He pointed out that "external aid of which we have received a great deal in recent years - is by its nature temporary and unreliable. It must not become the basis of development; our plans should not rely upon it."[41] On the other hand, economic and social policies which have not accomplished the desired results ought to be reformed by the government. At a macro economic level, some policy reform measures which Tanzania could undertake, (some have already been initiated) include the following.[42]

(i) Carry out a thorough appraisal of the operating budget and cut less essential recurrent expenditure especially in the area of employment and outdated services etc.

(ii) Cut down on development investments and allocate more resources to the recurrent budget, giving a higher priority to the maintenance and operation of existing programmes. In fact the government could decide on a capital-recurrent budget ratio which could be a guide for those preparing the budget.[42(b)]

(iii) increase the tax effort of the public sector, and the elasticity of the tax system where possible, to boost resource flows to the public sector.

(iv) The government should introduce economic user-fees in areas where free services have been offered, but which can be marketed such

as non-tertiary education, medicine, water supply etc. Those without the ability to pay could be exempted under a means test system.

(v) At project selection level, the government could change the composition of the investment programme to favour projects with lower recurrent expenditure implications.

(vi) Modify the technology of projects to have higher present investment costs with a benefit of lower future recurrent outlays.

The latter two points listed above ((v) and (vi)) actually call upon the government to be more sensitive to the type of technology and its future implications as opposed to just accepting a project simply because it can produce the goods/services targeted at. Moreover, the need to fall on environment - related projects is well demonstrated by Jennings. As he puts it, "more appropriate technology, including more community self-help projects may be required, and project efficiency should be monitored and 'White elephants' allowed to die".[43]

Long term policy measures that need to be taken to sustain any economic growth initiated which would in turn broaden the tax bases, include, allowing the economy to operate more on a free market basis, especially for the government to stop controlling prices of goods and services from agriculture, industries and transport etc; but also to allow the foreign exchange rate to assume a fairer international market exchange rate. This implies also that subsidies on consumables have to be lifted so that the consumers will pay the market prices for the goods or services they consume.

Other actions that the government ought to take include improving the performance of local planning, budgeting and accounting systems. Planning and budgeting need to be intergrated. This implies bringing

the activities of Dev.Plan and Finance under the same agency to improve coordination of project and recurrent expenditure budgeting. Such move would bring rationality in the allocation and management of resources.[44] Moreover, the use of recurrent cost coefficients in both planning and budgeting should be developed. Heller has led the way in this respect, and the coefficients developed by him could be used to test the adequacy of financing provided for on-going programmes.[45] But on top of the coefficients developed by Heller, is the model he developed which could be used to test for the fiscal viability of a given development plan by testing for consistency between implied economic growth rate and the plan's targeted growth rate.[46] Using such a model in the planning process could flash a warning whenever an imbalance between expected revenues and planned expenditure is likely to arise due to a failure of the model-implied growth in GDP not reaching the planned rate. However, to be able to utilize such a model fruitfully, more reliable data have to be produced by the system, a task that is yet to be seen.

V SUMMARY

The chapter has attempted to analyse the problem of recurrent costs as it occurs in Tanzania. Various tests applied to the Tanzanian situation. Those comparing development-oriented expenditure with non-development oriented expenditure, did not point to a worsening situation on recurrent costs mainly because of fluctuations in the indicators which made it difficult to draw some meaningful conclusions. However, very significant results were obtained from tests extended to Ministries of Education and Health, which indicated that, in real terms, some declining resources were being allocated to the important programme areas. In other words, though the human and capital resources had been developed to an appreciable level, however, the supportive inputs or services were not put at their disposal in sufficient quantities. Hence, the quality of services rendered by such sectors suffered considerable decline or detereoration.

The causes of the problem were seen to emanate from two main sources. There are those related to budgetary constraints, which hinge mainly on revenue mobilization capabilities and the increasing expenditure demands. The second set of causes were seen to be related to lack of rationality in allocation of resources. Institutional deficiences, especially at Treasury and Dev.Plan, were seen to be contributing to the problem of resource misallocation. Other causes of the problem were seen to be those relating to international involvement, especially in the sector of trade, whereby poor terms of trade had led to a strangulation of vital imports. In spite of the existence of the problem, priority in Tanzania continued to be

accorded to capital investments which were highly supported by aid funds, and which certainly engendered more needs for recurrent financing. Moreover, due to the overall shortage of financial resources to support operating needs, less priority was accorded to recurrent costs until lately when the economy and services fell into unbearable crisis.

Some policy measures of ameliorating the recurrent cost problem have been suggested too. Some of them are not new to the government because some initiatives towards their implementation are discernible. Suggestions made above such as removing controls on exchange rate and producer prices are being implemented already. Similarly, suggestions such as reduction in investments and cutting down on recurrent expenditure in non-important areas have started to be implemented. The impact of the reforms taken so far is yet to be seen. But there are other suggestions made which have not received any significant attention so far. These include the granting by donors of more programme concessional aid to the country, the merging of planning and finance activities by the government to enhance rational allocation of resources, and finally the selling of some of the public enterprises to the general public so as to raise funds and reduce the subsidy burden on the government. The latter notwithstanding, the success of any policy reform measures recommended and taken will depend on the government's ability to get skilled personnel to handle some of the difficult analytical tasks and also its ability to develop adequately its accounting and reporting systems. Needless to say, the paucity of data precludes proper assessment of the situation, and hence a correct understanding of the problems.

NOTES

1 UNDP/ILO (1982). "The Problem of Post-project Maintenance in Special Public Works Programme Geneva, pp 3-4

2 Gray, C. and Martens, A. "The Political Economy of the Recurrent Cost Problem in the West Africa Sahel". World Development Vol. II No. 2 pp. 105-7 (1983).

3 Heller, P.S. and Aghevli, J.C. (1985). The Recurrent Cost Problem. An International Overview. In Howell, J. ed Recurrent costs and agricultural Development. P.27 London, Overseas Development Institute.

4 Ibid, pp 27-8

5 Ibid, pp 27-30

6 Ibid, p 31

7 Ibid, pp 35-7

8 Ibid, p 46

9 Ibid, p 48

10 Note that defence expenditure between 1977/78 and 1979/80 was as follows (in Tsh millions) 1977/78: 1349.2; 1978/79: 3181; and 1979/80: 1109.7; (Source: The Economic Survey, 1982 & 1984. United Republic of Tanzania)

11 The absolute figures relating to teacher's numbers and students' enrollment appear in Columns (1) and (2) of Appendix 13 Table 13A-1

12 Computed based on Columns (3) and (4) of Appendix 13 Table 13A- 1

13 Heller, P.S. "The underfinancing of recurrent development costs." Finance and Development (March 1979) p 39

14 Green, R.H. and Singer, H. "Sub-Saharan Africa in Depression: The impact on the Welfare of Children" World Development Vol 12 No 3 (1984) p 293. The authors clearly point out the extent to which operations of schools etc have been impaired. On the surface the volume doesn't appear to have shrunk, but this is accounted for by the high wage/salary component in these social sectors which are not cut, while the others are cut.

15 Ibid, p. 293

14 Heller and Aghevli op. cit. pp. 44-5

17 Howell J (1985) Introduction, p 10 in Howell J ed op cit

18 Heller and Aghevli op. cit. p. 31

19 Ibid. pp. 44-5

20 Ibid. p. 32

21 Tait A.A., Gratz W. L. M. and Eichengreen B. J. "International Comparisons of Taxation for Selected Developing Countries." IMF Staff Papers vol. 26 No. 1,(March 1979).

22 Ibid. p. 130 Table 2 is most relevant

23 Ibid p. 130

The index of International Tax Comparison (ITC) used is defined as the ratio of the actual tax ratio to the tax ratio estimated according to the equation.

$$T/Y = 9.9949 + 0.0008(Yp-Xp) + 0.4068(Np) + 0.1938(Xy)$$

$$(6.15) \quad (-0.34) \quad (5.41) \quad (3.12)$$

$$R^2 = 0.413$$

(Yp-Xp is non-export income per capita, Np is share of mining,

while X'y is non-mineral exports in GDP).

24 Ibid. p. 138 Table 3 is quite relevant
Note that all the 47 countries analysed were grouped under four categories: High and Rising (13 countries); High and Falling (8 countries); Low and Rising (11 countries) and Low and Falling (15 countries)

25 Ibid. p. 143

26 Heller and Aghevli op. cit. p. 32

27 Green and Singer op. cit. p. 292

28a The Ugandan war alone cost the government about $750 million
Green, R. H. (1983). Political Economic Adjustment and IMF conditionality: Tanzania 1974-81. In Williams, J. ed. IMF conditionality; p.348 Washington, Insitute of International Economics.

28 Jennings, A. "The Recurrent Cost Problems in the Least Developed Countries" The Journal of Development Studies, Vol. 19 NO. 4 (1983) p 507

29 Heller P S (March 1979) op. cit. p. 39

30 Carruthers, I. "Factors influencing Agricultural Recurrent Budget problems in LDC's: Implications for domestic reforms: ODI Workshop on Financing the Recurrent Costs of Agriculture Services in Developing Countries (3rd 8th July 1983) p. 6

31 Heller and Aghveli op. cit. p. 40

32 As can be seen from below, there has never been a concrete decision on the position of the two Ministries.

Date of change: Ministry created.

Prior to 1964	Ministry of Development and Planning
1964 to 1965	Directorate of Planning in the President's Office (with 3 Ministers of State).
1965 to 1975	Ministry of Development Planning and Economic Affairs.
1975 to 1979	Ministry of Finance and Planning
1980 to 1982	Ministry of Planning and Economic Affairs. (Vice President's Office).
1982 to 1985	Ministry of Planning and Economic Affairs (Cabinet Post)
1985-Todate	Ministry of Finance and Planning.

33 On p.490 above, it was pointed out that external financing of development projects ranged between 24% and 62% (with average being about 43) for the 1967-83 period.

34 Howell, J. (1985) ed. op. cit. pp. 14-5

35 Heller (March 1979) op. cit. pp. 39-40 The World Bank is cited as a good example of donors who have been considering financing operations and maintenance as a priority

36 Green and Singer op. cit. p. 292

37 Ibid. p. 292

38 Jennings, op. cit. p. 517

39 Ibid. p. 518

40 Ibid. p. 518

41 United Republic of Tanzania. (1977). The Arusha Declaration, Ten Years After pp. 27-8; Dar-es-salaam.

42 Most of the ideas have been assimilated from Heller, (March 1979) op. cit. p. 41

42b It is suggested by Stevens that where the budget is formally separated into Development and Recurrent budget, then the capital component of the total government expenditure should be set in relation to the recurrent component. This ratio should be a sustainable one, see Stevens, M. L. O. (1985) "The management of Recurrent Costs" p. 90 in Howell. ed. op. cit.

43 Jennings op. cit. p. 518

44 Heller (March 1979) op. cit. p. 41

45 Ibid. p. 39 This coefficient appears in Appendix 13 Table 13A-4

46 See Heller P. "Public Investment in LDG' with recurrent cost constraint; The Kenyan case" Quaterly Jounal of Economics Vol (1974) pp. 255-257.

CHAPTER 14.

CONCLUSIONS AND POLICY IMPLICATIONS

I INTRODUCTION

The study has examined a number of theoretical and practical issues relating to resource allocation decisions in the Tanzania public sector. Five crucial questions were raised in chapter 1 (p.6) and addressed in the study. In general I have examined questions such as: how is the existing pattern of expenditure and revenue explained?, and secondly, how is the making of the new budget explained? Within the domain of the public budget, these issues were examined with a purpose of trying to establish, first, the efficiency with which the budgetary system has managed to allocate the resources which are put at its disposal, and secondly, the extent to which the major discrepancies could be reduced. In the wider context the expectation has been that, an efficiently managed budget would ensure that policy decisions and measures taken upon the economy would stand a better chance of success.

The justification for pursuing the study would not have been put then by Bird when he pointed out that; "empirical work will be more useful to policy makers the more it focuses on changes and on details, for the actual reality and basic issues of policy lie there. Careful detailed quantitative study of particular issues in particular countries is the kind of empirical research which is really needed in development finance." (Bird (1978) p.56).

Some problems in data availability were encountered, but as was hinted in the introductory chapter, some efforts had to be made to assemble and sort out the data that could be gathered. In certain

analytical cases, shorter periods had to be considered as a way of overcoming the problem of data incompleteness. Nevertheless, the results obtained so far can be relied upon, pending further studies based on more complete data.

In the next couple of sections, I will conclude on the major findings of this study. The policy implications of the findings will be highlighted as well.

II SUMMARY OF MAJOR FINDINGS

The discussion in this section follows the same chapter pattern as used in examining the problem. That is, some significant findings related to the hypotheses which were tested empirically will be presented first, to be followed by findings related to the empirical observations about the forecasting aspects of the budget. The summary focuses more on the results of the aggregate measures analysed.

The first task that was picked up in the study was one of identifying the hypotheses which had been posited to explain the behaviour of expenditure and revenue in LDCs. This sorting out exercise had to be done because; given the economic development of the LDCs, some hypotheses which had been developed on a background of developed nations' circumstances could not apply to the former without some modification or a reformulation. Moreover, most of the hypotheses thought to be appropriate to the LDC environment had been formulated based on cross-sectional data of a group of countries, rather than on individual countries. Because of this, the generalizations made were likely to differ from those obtained from a study of the latter. Though most LDCs have similar poverty

characteristics, their economic structures could be quite dissimilar. Such structural differences could in fact render some of the hypotheses based on group studies irrelevant in the individual country study case.

The investigation on the hypotheses which explain the behaviour of expenditure in Tanzania revealed a number of significant factors, which comprised of: the share of tax revenue in GDP (referred to in the text as the revenue constraint), the external receipts, and the demographic factor of population. The tax revenues and external receipts factors combine to account for the total financing (except where local deficit financing is used). The fact that expenditure trend has been responding to the tax revenue that is collectible every year implies that the periodical instability of revenues would affect the stability of expenditures directly, thus making it difficult to implement expenditure policies.

On the part of external receipts, the findings were quite important, because they underlined the dependency that has developed between public expenditure and itself. The implications are that any form of instability in external receipts (in the form of interuptions, cuts or postponements) would affect the implementation of any expenditure policy in the short run, while in the longer run it would leave the government with massive expenditure programmes to finance that would probably be beyond the national financing capabilities. The recurrent cost problem discussed in chapter 13 above is a clear example of the long term consequences of dependency on foreign receipts.

Besides the three factors discussed above, another factor whose

influence on expenditure had been argued to be a strong one, but turned out to be (statistically) insignificant, is the "stage of development" which had taken a political-historical perspective of development in Tanzania. The factor was indexed by a dummy variable as no other more appropriate index could be devised to cover it. It is therefore suggested that the results obtained should be interpreted with reservation, pending further research in this area.

Another interesting observation related to the association between public expenditure and economic development. The results of this study have underlined the hypotheses that there is no significant association between expenditure trend and economic development (represented by 'per capita income'). These findings were not unexpected in any case. This was so because, if a large share of expenditure has been financed through external aid and domestic borrowing, it implies that the pattern of spending would not be in line with the pattern of economic development. These negative results have far reaching overtones. In the short run there will be the usual problem of underfinancing of programmes due to the lack of national resources, while in the long run this condition might make it impossible for the government to implement other policy measures adopted. One major area of implementation failure would be on domestic credit policy. The government would be forced into further domestic borrowing due to the high levels of expenditures which cannot be supported with tax revenues mobilized from the economy. Looking back at the questions raised in chapter 1 (pages 5 & 6), in particular numbers 1,2, and 4 about influences the economic development, external receipts and tax revenues have on the pattern of expenditure, it is

possible to say that the latter two variables have a strong influence, but the economic development variable as represented by Per Capita Income had insignificant influence. Besides, it has been established that population has a strong influence too.

On the part of revenue behaviour, the factors which were tested empirically for their influence on its pattern, and which showed some significant results, included: the share of mining in GDP; the share of agriculture in GDP; and the level of economic development (indexed by 'per capita income'). The agricultural variable was explained in terms of its influence on the purchasing power of the local population from whom most of the local transaction taxes (sales taxes and excise duties) were derived. Therefore, it would be appropriate to consider it as a predictor variable. The mineral variable had a strong influence, but because of its insignificant contribution in the GDP. it was argued that there was no point in considering it as a predictor variable.

On the part of the economic development index (ie per capita income) the positive confirmatory results could not be a surprise because, according to various international comparative studies, Tanzania appeared to be above average in tax effort. Secondly, the fact that a large share of this per capita GDP is agriculture share, the latter helps to raise the overall GDP influence. Thirdly, the pressure to finance the escalating expenditure, at a time when production in the key productive sectors was falling, implied that any tax handle available was taxed heavily. Thus, the strong relationship between economic development and revenue pattern was quite expected.

The confirmation of the 'per capita income' factor has far

reaching implications in setting stabilization policies related to tax revenue. Any expectations of changes in levels of revenue have to be based on changes in par capita income. But we saw already in chapter 3 above that projections of GDP were not readily available. This implies that the system of predicting GDP (ie per capita income) has to be improved tremendously.

On the other hand, some insignificant results were obtained in respect of other factors which had been thought to be quite influential on revenue pattern. One of these factors was the 'degree of openness' which was deconfirmed. The empirical testing had used various proxies such as: exports share in GDP; imports share in GDP; and the sum of exports and imports in GDP. The deconfirmation in the Tanzanian situation conflicted with other studies' findings which had confirmed that the 'degree of openness' had a significant influence on the revenue pattern. Nevertheless, the reality of the Tanzanian tax revenue structure and tax handles dictated quite a different relationship. While in certain developing countries most revenues are derived from one or two export commodities, ie. certain hard minerals or petrol minerals, in the case of Tanzania, such a situation does not exist. The structure of taxes indicated that between 1954 and 1984, seldom had the foreign trade taxes (export and import duties) reached a 30% level of total tax revenues. Hence the absence of any strong influence on the revenue pattern. Another factor that did not have a significant influence on tax revenues was aid. This could be interpreted to imply that decisions made on tax revenue mobilization are not influenced by the flow of external receipts.

Looking back at some of the questions raised in chapter 1 (p.6),

particularly questions 1 and 2, it could be said that we have been able to establish that tax revenues are strongly influenced by the economy's output, but not influenced by the flow of aid to the country.

Besides looking at factors which influence both revenues and expenditure, we also looked at the question of stability of the two items. In the case of revenues we found out that the amount of instability was relatively high, and it was argued that this could have some destabilizing impact on expenditure. On the part of expenditure, there were some major fluctuations for which an attempt was made to explain the main turning points.

The second level of empirical investigation analysed the techniques used in predicting and controlling expenditures in Tanzania, as well as the nature and the magnitude of the forecast errors resulting from the imperfections in the forecasting process. Basically, the underlying objective in carrying out the investigation was to detect the factors which were used in predicting the various components of expenditure and revenue, and secondly, to see whether such factors had any relationship with those discussed under the various hypotheses in chapters 5 and 6.

Besides, in order to know the main causes of the variations between the budget forecasts and the outturns, the predictor variables identified through the investigation were analysed further in terms of the extent of misspecification and instability so as to determine the scope of their influence on the forecast errors.

What become quite apparent out of the investigation was that the forecasting process, whether for expenditure or revenues, had not

utilized any systematic method to generate the forecasts. In the case of revenues, while past trends had been used to set up the preliminary estimates used mainly for setting up the expenditure ceilings, however, the determinants of the official estimates did not utilize any of those predictor variables identified by the Treasury itself, nor those identified in chapter 6 above. In the case of external finance, the investigation revealed that the system in use managed to identify the potential sources and amounts quite effectively. It was observed that only firmly committed external resources were included in the budget estimates. However, some problems on the latter were identified in relation to the allocation of the available resources among projects and to spending agencies. This will be discussed further below. Thus due to the inadequacies in the forecasting process, the study revealed some significant variations (errors) between the forecasts and the outturn. In the case of tax revenues we observed some under-predictions, while in the case of external finance the analysis revealed some underutilizations. On the part of recurrent expenditure, the tendency was one of under-predicting, while for the development expenditure the investigation pointed to some over-predictions.

The causes of these discrepancies (ie. under- and over-predictions) can be summarized as arising from either local factors (ie. weaknesses within the Government itself) and/or external factors (ie. those not within the control of the Tanzanian Government). As regards local factors, in general, certain weaknesses within the Government system tended to undermine the forecasting procedures. Such weaknesses included, first, shortage of skilled manpower,

especially those required for planning, finance and accounting functions which contributed to both delays in processing information and an overall poor performance. Secondly, poor data collection and information systems imposed some difficulties on the forecasting process. Thirdly, the fluctuations in economic performance posed a problem of uncertainty, especially when it came to predicting items such as tax revenues. However, there were some specific points on each category of budget items which led to the discrepancies. As far as the tax revenues are concerned, the imvestigation revealed that sometimes there was a lack of initiative on the part of the tax administrators to retrieve some of the data that lay in their own office files. The use of such data would certainly have improved the outcome of the forecasts. On the part of recurrent expenditure, certain practices at Treasury level tended to undermine the procedure of preparing the forecasts. In particular, it was noted that inconsistencies at Treasury, especially in relation to setting the ceiling levels and subsequent approvals, made most of the spending agencies lose confidence and commitment to the budget determination function. On the part of development expenditure, some institutional weaknesses, mainly in the area of planning, encouraged the tying of development projects to external finance. Moreover, the planning system failed to ensure that proper appraisal procedures were carried out to determine accurately both the investment costs and the associated recurrent costs. Such weaknesses undermined of course the determination of reasonably accurate forecasts.

The second source of the discrepancies are external factors. The influence that external factors may have on policies undertaken by a

government is well put by Hinchliffe and Allan (1983, op. cit. p. 962) as they pointed out that "external events may be equally or more important in determining eventual outcomes than any efforts of planners or politicians." The two factors which the authors singled out are the changes in world commodity prices, and the role of foreign aid and foreign investments. The fluctuations in commodity prices in the international markets upset internal plans as a whole, mainly by causing some fluctuations on the foreign revenues which are so vital for supporting the imports. The budget which depends on the foreign earnings for both tax revenues and imported goods and services will certainly be affected adversely as well. On the part of foreign aid, the mode in which the resources are transfered does affect internal policies. As argued in the text, the donors might have various motives in extending the aid. And in view of the fact that the recipient is in a desperate financial condition, he is sometimes pushed into accepting a funding that works to his disadvantage. Some obvious problems related to aid were seen to include costly tied aid, wrong timing of disbursements, donors' insistence on new projects, lack of donors' interest to work jointly on an identified project, and sometimes the lack of interest to support vital operational costs etc. Other external factors which indirectly affect the accuracy of the forecasts include the occurence of the unexpected such as wars and droughts. These external factors have the impact of reducing the national income which eventually determines the outcome of revenue and expenditure targets.

The problem of poor forecasts can not be said to be limited to Tanzania alone or to LDCs only. It was pointed out in the text that

even in a country like Britain the forecasting process is not perfect. But of course in the case of LDCs the situation is more precarious because the budget problems tend to combine with other economic problems to add to the misery. Studies such as those of Caiden and Wildavsky (1974, op. cit.), and Cassen (1986, op. cit.) clearly point to the intractable budget problems of the LDCs.

Looking back at question 5 on chapter 1, the study has been able to reveal the non-systematic use of predictor variables in forecasting expenditures and revenues. These results confirm the existence of the conditions of uncertainty, lack of skilled human resources, lack of reliable data or information to be used in the generation of the forecasts etc. in LDCs.

My study has pointed out quite clearly what the implications of the forecasting problem are. On the part of tax revenues the underpredictions reflect less effort to make a proper assessment of the tax potential (implying that taxable capacity in the country was understated). Moreover, given that the revenues have to be mobilized when no clear information is available about the tax handles, the consequencies are that a few easily taxable sources will have to bear the burden, thus undermining private savings and the incentive to make further investments. Besides, unplanned high taxes on incomes and products (or expenditure) tend to push up wages and prices, thus leading to a more inflationary situation.

On the other hand, the implications of failing to allocate foreign funds efficiently are a real issue of concern. On the budget, external funds have directly caused a tremendous rise in government expenditure. While in the past external support was mainly for

project expenditure, on the other hand, the Government was left with a task of meeting any consequencial recurrent expenditure, undoubtedly at a level beyond that for which internally generated resources could cater. Other side effects of the inefficient allocation of external funds have been the rise in indebtness, the pile up of unintegrated super structures which can not be operated for lack of working capital resources and sometimes skilled manpower. Again, the implications associated with the external funds are not confined to Tanzania alone. As pointed out by various studies, eg. Cassen (1986, op. cit.) World Bank (World Development Report 1985) etc., many developing countries, especially the very poor, have found themselves entangled in intractable economic problems related to their past external drawings.

The overall implications resulting from the discrepancies and disjointed decisions made on revenues, external funding and expenditure, were automatically reflected in, first, the severe problems of recurrent costs. The Government (as well as other LDCs) is unable to operate efficiently both economic and social services. From the study it became quite apparent that the meagre recurrent resources available were used to service salaries and wages, without providing adequately the complementary resources or facilities to render the services anticipated. Consequently, many of investments have run into serious capacity underutilization or complete disuse. The main causes of the recurrent cost problem were seen to be, first, the low level of local revenue mobilization, and secondly, the lack of support of such costs by the aid donors (although there has been a change of direction by most donors to finance operating and maintenance costs) etc. The second overall implication is the rise in budget deficits which can

not be sustained by the current level of economic output and growth. These budget deficits have become a great source of economic instablility. Their rise also meant a failure in the domestic credit policy, which was in fact critical in as far as the demand side policy measures to stablilze the economy were concerned. There is no doubt that the external credits obtained pushed the Government to expand local credit so as to finance the local costs components of the projects.

In short, we are in no doubt that the repercussions of the distortions associated with the poor budget forecasts on the rest of the economy are of a debilitating nature. Any instruments associated with taxation and expenditure are rendered ineffective, thus incapacitating the overall fiscal policy and other macro- economic policies adopted to stabilize the economy and stimulate (economic) development. Besides, other policy targets such as income distribution, basic needs satisfaction, welfare benefits etc. cannot be accomplished as expected.

III RECOMMENDATIONS

What has been brought to light through this study is that the budgetary system in Tanzania is lacking stability. The instability arises from the uncertainty that prevails over revenue sources (mainly local) and the unabating expenditure demands.

To enhance the reliability of the budget forecasts, the following reformative measures could be adopted. The first reform relates to adoption of a more flexible budget process. This could be

done in two ways. The first method involves the shortening of the forecasting horizon from the present period of twelve months to probably three or six months. Such a move would enable the Government to accommodate more of the changing predictor variables environment. The second variant, as suggested by Caiden et.al. (1974, op. cit. p.316), is one of letting the budget process be geared to making ad hoc decisions on resource allocation against a background of what is known about revenue and expenditure at the time. Thus, while the current twelve months forecast horizon could be retained, the initial budget that is prepared is treated as a best estimate of the minimum amount that must be spent to carry out existing activities. Any department or spending agencies which might have requests above the budgetary base would have to approach Treasury at any time of the year with their justification. Equally, Treasury would have to go through departmental budgets to check on programmes which ought to be terminated. The authors think that this approach would increase certainty by assuring the spending departments of the base amount, and secondly, by allowing Treasury to allocate resources on a more realistic basis.

Another area requiring reform is that of development projects and external financing. The study clearly indicated that the latter two are intertwined. While we assume that the Government will still continue to rely on external financing, given the paucity of export revenues for financing capital imports, there are some measures which could be adopted to improve coordination and the management of the two. The experience of other developing countries which have had some success in budgeting and external aid management will be reflected

upon as well. What are these measures? First, in view of the present internal resource crises, the Government should prepare a set of acceptable criteria which will be used to choose the most flexible aid donors to work with. But a prerequisite to the latter would be the establishment of a strong institutional structure (ie. an effective aid management team), as is being done in other LDCs such as India, and Kenya (Cassen, 1986, op. cit. pp.227-29). The aid management team would at the same time be involved in negotiations, which at the moment are thought to be a part of the causes of the difficulties that the LDCs are facing over aid management. The Government would therefore endeavour to assume control of aid flows, particularly in terms of having powers to marshal the external funds around to bottleneck spots in the economy. Similarly, the Government should be able to determine the nature of aid, in terms of its demands for programme needs versus project needs. The example of Papua New Guinea is most relevant in this respect. Due to the latter's success in budget (and aid) management, donors have adopted a more flexible approach in extending aid to it (Hinchliffe et. al. 1983, op. cit.).

Beyond the problem of aid management and coordination, is the issue of harmonization of development and recurrent budget. Foremost, the Government has to avoid pegging down development expenditure to foreign aid, as is currently the practice. The advantages of such a move are, first, it will be possible to avoid the internal resource imbalances (associated mainly with the counterpart domestic resources) which are ravaging the economy at the moment. Besides, the latter could also help to lessen the possibility of dislocation of expenditure that might arise from sudden aid cuts or other forms of

aid interruptions. But even more important is the act of integrating the two budgets (ie. development and recurrent budget) which would be determined as one entity. This goes beyond the act of merging the Ministries of Finance, and Planning and Economic Effairs. All expenditures have to be considered against the available revenue resources on a priority basis without a major division of the expenditure into categories. The successful example of Papua New Guinea could be a good source of reference. As documented by Hinchliffe et. al. (1983, op. cit. p.969):

(i) there is no such thing as capital budget and a recurrent budget

(ii)analysis for each proposed new activity incorporates total costs for the first four years.

(iii)projects funded by foreign aid are treated in precisely the same way as are domestically funded projects.

(iv)a project for additional road maintenance, additional supplies to hospitals, expansion of national high schools....etc. competes directly with a proposed new road, new school,or new food production project.

Another area that requires particular attention is that of supervising resources allocated for investment purposes. The department responsible for project monitoring and reporting should be staffed adequately in order to be effective. As reported by Caiden et. al. (1974 op. cit. p. 297), a country like Sri Lanka managed to speed up the implementation of projects through a division of 'Plan Implementation' which was responsible for helping those involved in implementing the projects work out schedules of construction, and it sent out expediters into the field for first hand observation etc.

Therefore, project implementation would work better in the Sri Lankan way than is currently practised where the understaffed department waits for reports to be sent by the implementing agencies.

Another important measure to improve budgeting is the determination of the rate of current expenditure per shilling unit of development expenditure incurred for each major government sector activity. Such rates would certainly provide a more reliable means of predicting expenditure based on the cumulative investment made. The rates would have to be reviewed occasionally to accommodate any inflationary situation.

As far as improving the role of budget in stabilization policies is concerned, a number of measures could be taken. First, the forecasts which enter the stabilization policies could be improved by being corrected using the realization functions which were developed in chapters 8 to 11 above. Using such adjusted forecasts will eventually limit the size of forecast errors, thus allowing stabilization policy outcomes to be within targeted levels.

Secondly, as regards stabilization policies based on tax revenue instruments, the government could lean more on the readily predictable sources of taxation (those with high buoyancy coefficients and those which appeared to be more stable) such as income and personal taxes, consumption and excise duties, import duties, and parastatal dividends, for policy decisions. The less predictable sources should be ignored in the policy determination process.

On the other hand, there are some general reformative measures which, if initiated, could help to strengthen the budgetary process. These include: increasing the pace of development of the personnel

required in budgetary functions, such as accountants, financiers, economists and statisticians. Secondly, efforts have to be made to equip the key expenditure and revenue offices with working machines such as micro-computers which would help to store and process information. Thirdly, the information systems should be developed or organized to provide more relevant information. As pointed out by Caiden et. al. (1974, op. cit. p. 313), 'officials in the finance ministry should find out what they actually use and first reduce the flow to just that. No new data should be collected without asking who will use what bit at what time for what particular decision.' Finally, those measures which can produce more accurate and speedier accounting have to be taken. The latter would certainly involve rationalizing the accounting methods and procedures in use.

IV THEORETICAL IMPLICATION AND WHAT IS LEFT FOR FURTHER STUDY.

This study has not come out with any new theory relating to budgetary systems in developing countries. However, it has been able to demonstrate the extent to which the hypotheses developed based on group country data could produce different results when applied to individual country data. However. a new idea that we have managed to bring to the limelight, which hitherto has not received much attention in development finance is that of the role of external finance in influencing expenditure trend. Other hypotheses had considered external financing for its role in complimenting local revenue mobilization effort, but this was not evidenced in the analysis.

While this study has focussed on the understanding of the factors and decision rules which determine various budget outputs in Tanzania, a lot more precise work on the budget behaviour itself and its precise influence on the turbulent economy need to be undertaken. At least future researchers would find the task relatively easier in the light of my modest contribution. Nevertheless, this presupposes significant improvements in data collection, and the quality of that data both of which are imperative for studies of this kind.

APPENDIX 1

SOURCES AND RELIABILITY OF PUBLIC EXPENDITURE AND OTHER STATISTICS IN TANZANIA.

The study with the various conclusions drawn will not be complete without some assurance on the source of the data used in the various analyses, and the extent to which they can be relied upon. The statistics to be covered are mainly of two categories. The first category is that for public budget (expenditure and revenue inclusive) data, while the second category is that relating to GDP and its components.

In the text where some data has been reproduced in a table, the main source has been indicated. However, most of the data have not been reproduced in the main text, but are presented below in this Appendix.

Some details about the source of the data.

(i) Public expenditure and revenues.

The statistics for expenditure and revenues for the period 1953/54 to 1971/72 are an aggregate of both Central and Local Government activities. The local governments were formally abolished in 1972. Beginning 1972/73, all Government expenditure and revenue data are for the central government.

The statistics of actual expenditure and revenues are based mainly on Government accounting records, the main source being the Economic Survey which is published each year. For those years when the latter was not being published, the main source of data was the Annual Statistical Abstract which was prepared by the Government (ie. the Economic and Statistics Division of the Treasury). Some of the data in

the Statistical Abstracts relating to the period to 1953/54 to 1964/65 have also been published by Chadwyck-Healey Ltd (Cambridge).

The second source of data, particularly the estimates, are the various Estimates Volumes. The main ones are the Financial Statements and Revenue Estimates Volume, and the Estimates of Expenditure (Supply Votes and Development) Volumes II, III and IV.

As regards foreign loans and grants, three main sources were used. These were the Economic Survey which was relevant for the yearly actual and estimates figures, and the Appropriation Accounts which were very valuable for the data on outstanding external debts.

(ii).Gross Domestic Product (GDP) Statistics.

As regards the GDP and its components figures, the main sources have been the Economic Survey, the Statistical Abstracts etc.

Besides the internal sources of data, other external sources had to be used as well for their valuable data. The latter sources comprise of the International Monetary Fund's Financial Statistical base, and the United Nations Orgarnization's National Accounts statistical base. Tanzania as a member of the latter institutions, she supplies them with information regularly. Therefore, these sources were checked for information whenever it was necessary. Such information was used also to countercheck the information that was obtained from the local sources.

RELIABILITY OF THE STATISTICS.

The local sources of the statistics are not free of problems. In the text itself it has often been mentioned of the problem that the Government faces over information systems. The paucity of human

skills, the inadequacy of complementary facilities such as accounting and data processing machines, etc. affect adversely the data that is generated by the Government machinery. These deficiencies cause some delays to functions such as preparation of accounts and auditing. Invariably, these functions are critical for ensuring that the mass of information produced by the various agencies can be relied upon. Since the accounts are not prepared on time, the information that is entered in the various published sources raise some doubts over their accuracy. Sometimes it may even take a number of years before some audited data are available. The gap in Tanzanian data in the more official sources such as the IFM, the World Bank and the UNO, is a clear indication of the manitude of the information problem that the country faces. Thus, in using whatever Government data is availlable, it becomes quite obvious that the most recent ones are likely to have more serious errors than the more old data. Therefore, the longer is the serial data, the more reliable are the results. This problem of deficiencies in data appear to be common to both developing and developed countries alike. The fact that the data supplied to the various international organisations change from year to year, for both developing and developed countries, is an undisputable evidence of the existence of this data problem, although it is more acute in the case of the former. The latter notwithstanding, whatever data is availlable has to be used for analysis. We only have to be cautious about the inferences we draw from such analyses.

The actual data used in the analyses follow below.

APPENDIX 1

		REAL GDP#	REAL INDUSTRIAL OUTPUT#	REAL MONETARY AGRICUL. OUTPUT#
1954-	1	.000000	.000000	.000000
1955-	1	.000000	.000000	.000000
1956-	1	.000000	.000000	.000000
1957-	1	.000000	.000000	.000000
1958-	1	.000000	.000000	.000000
1959-	1	.000000	.000000	.000000
1960-	1	.000000	.000000	.000000
1961-	1	.000000	.000000	.000000
1962-	1	.000000	.000000	.000000
1963-	1	.000000	.000000	.000000
1964-	1	.000000	.000000	.000000
1965-	1	19561.0	.000000	.000000
1966-	1	22071.0	.000000	.000000
1967-	1	22962.0	.000000	.000000
1968-	1	24152.0	.000000	.000000
1969-	1	24596.0	672.000	3089.00
1970-	1	26022.0	716.000	3205.00
1971-	1	27110.0	782.000	3166.00
1972-	1	28933.0	850.000	3425.00
1973-	1	29817.0	888.000	3458.00
1974-	1	30562.0	900.000	3315.00
1975-	1	32301.0	903.000	3596.00
1976-	1	34435.0	961.000	3772.00
1977-	1	39497.0	1017.00	4104.00
1978-	1	38129.0	1051.00	4326.00
1979-	1	42829.0	1029.00	4357.00
1980-	1	43188.0	893.000	4560.00
1981-	1	42712.0	648.000	4184.00
1982-	1	43264.0	568.000	3819.00
1983-	1	43075.0	.000000	.000000
1984-	1	44143.0	.000000	.000000

in 1980 prices.

APPENDIX 1

ENTRY	PARASTATAL DIVIDEND# PADIV 31.	VEHICLE TAXES & LICENCE# VEHTAX 32	MISCELLANEOUS TAXES# MISLTAX 33
1954- 1	.000000	6.00000	.000000
1955- 1	.000000	7.00000	.000000
1956- 1	.000000	7.00000	.000000
1957- 1	.000000	8.00000	.000000
1958- 1	.000000	9.00000	.000000
1959- 1	.000000	10.0000	.000000
1960- 1	.000000	10.0000	.000000
1961- 1	.000000	9.00000	.000000
1962- 1	.000000	10.0000	.000000
1963- 1	.000000	12.0000	.000000
1964- 1	.000000	11.0000	.000000
1965- 1	.000000	21.0000	.000000
1966- 1	.000000	21.0000	.000000
1967- 1	.000000	25.0000	.000000
1968- 1	.000000	60.0000	40.0000
1969- 1	.000000	27.0000	12.0000
1970- 1	49.0000	40.0000	13.0000
1971- 1	42.0000	47.0000	.000000
1972- 1	63.0000	32.0000	344.000
1973- 1	46.0000	42.0000	.000000
1974- 1	86.0000	21.0000	46.0000
1975- 1	106.000	16.0000	56.0000
1976- 1	76.0000	12.0000	51.0000
1977- 1	95.0000	12.0000	61.0000
1978- 1	114.000	12.0000	53.0000
1979- 1	200.000	12.0000	66.0000
1980- 1	210.000	34.0000	79.0000
1981- 1	143.000	56.0000	45.0000
1982- 1	200.000	70.0000	36.0000
1983- 1	347.000	77.0000	.000000
1984- 1	.000000	.000000	.000000

Tshs. in millions.

APPENDIX 1

B>	IMPORT DUTIES#	EXPORT DUTIES#	CONSUMPTION & EXCISE DUTIES#	INCOME & PERSONAL TAXES#
ENTRY	IDUTY 27	EXDUTY 28	CONTAX 29	INPETX 30
1954- 1	70.0000	3.00000	25.0000	146.000
1955- 1	96.0000	10.0000	30.0000	131.000
1956- 1	111.000	1.00000	36.0000	121.000
1957- 1	100.000	.500000	39.0000	104.000
1958- 1	106.000	.500000	46.0000	114.000
1959- 1	134.000	.500000	45.0000	97.0000
1960- 1	155.000	1.00000	54.0000	102.000
1961- 1	154.000	1.00000	53.0000	116.000
1962- 1	161.000	1.00000	55.0000	120.000
1963- 1	187.000	13.0000	72.0000	124.000
1964- 1	208.000	18.0000	78.0000	140.000
1965- 1	245.000	29.0000	91.0000	152.000
1966- 1	260.000	12.0000	100.000	184.000
1967- 1	297.000	38.0000	122.000	193.000
1968- 1	345.000	39.0000	144.000	250.000
1969- 1	374.000	49.0000	173.000	297.000
1970- 1	344.000	47.0000	377.000	352.000
1971- 1	347.000	55.0000	437.000	448.000
1972- 1	337.000	45.0000	462.000	527.000
1973- 1	394.000	88.0000	730.000	615.000
1974- 1	541.000	216.000	1043.00	717.000
1975- 1	528.000	223.000	1421.00	1025.00
1976- 1	451.000	156.000	1633.00	1091.00
1977- 1	323.000	839.000	1749.00	1396.00
1978- 1	892.000	548.000	2238.00	1664.00
1979- 1	895.000	448.000	2614.00	1897.00
1980- 1	811.000	465.000	2956.00	2427.00
1981- 1	656.000	215.000	4375.00	2750.00
1982- 1	675.000	19.0000	5130.00	3245.00
1983- 1	724.000	12.0000	5590.00	3794.00
1984- 1	.000000	.000000	.000000	.000000

Tshs. in millions.

APPENDIX 1

B>

ENTRY		GROSS DOMESTIC PRODUCT# GDP 2	TOTAL EXTERNAL RECEIPTS# FOLOAN 5	PUBLIC DEBT# PUDEBT 16	POPULATION* POP
1954-	1	2832.00	18.0000	6.00000	9.00000
1955-	1	2934.00	14.0000	11.0000	9.20000
1956-	1	3048.00	18.0000	11.0000	9.21000
1957-	1	3248.00	82.0000	14.0000	9.60000
1958-	1	3342.00	76.0000	20.0000	9.83000
1959-	1	3542.00	73.0000	25.0000	10.0800
1960-	1	3702.00	62.0000	35.0000	10.3300
1961-	1	3773.00	96.0000	31.0000	10.5800
1962-	1	4188.00	143.000	37.0000	10.8500
1963-	1	4548.00	104.000	40.0000	11.1100
1964-	1	5594.00	53.0000	47.0000	11.3900
1965-	1	5671.00	78.0000	53.0000	11.6700
1966-	1	6514.00	84.0000	70.0000	11.9600
1967-	1	6735.00	127.000	102.000	12.2600
1968-	1	7182.00	84.0000	133.000	12.5900
1969-	1	7460.00	123.000	113.000	12.9300
1970-	1	8215.00	122.000	176.000	13.2700
1971-	1	8845.00	270.000	167.000	13.6300
1972-	1	10130.0	359.000	239.000	14.0000
1973-	1	11490.0	518.000	296.000	14.3700
1974-	1	14010.0	681.000	244.000	14.7600
1975-	1	16988.0	1039.00	255.000	15.3100
1976-	1	17584.0	1033.00	434.000	15.6100
1977-	1	23792.0	1402.00	466.000	16.4000
1978-	1	30922.0	1369.00	670.000	16.9000
1979-	1	34221.0	2427.00	507.000	17.5000
1980-	1	38002.0	2320.00	1085.00	18.0000
1981-	1	41697.0	1872.00	1682.00 /	18.6000
1982-	1	44165.0	1838.00	3300.00	19.2000
1983-	1	47000.0	2020.00	4537.00	19.8000
1984-	1	51695.0	1242.00	3013.00	20.5000

Tshs. in millions.

APPENDIX 1

B>	RECURRENT REVENUE#	DIRECT TAXES#	INDIRECT TAXES#
ENTRY	TORE 1	DITA 14	INDITEX 15
1954- 1	442.000	136.000	152.000
1955- 1	433.000	126.000	164.000
1956- 1	412.000	112.000	158.000
1957- 1	448.000	122.000	176.000
1958- 1	446.000	122.000	172.000
1959- 1	462.000	108.000	196.000
1960- 1	494.000	112.000	206.000
1961- 1	497.000	122.000	214.000
1962- 1	537.000	121.000	264.000
1963- 1	583.000	124.000	342.000
1964- 1	890.000	142.000	329.000
1965- 1	1018.00	154.000	400.000
1966- 1	1088.00	224.000	414.000
1967- 1	1210.00	233.000	507.000
1968- 1	1327.00	264.000	589.000
1969- 1	1442.00	339.000	661.000
1970- 1	1542.00	352.000	827.000
1971- 1	1626.00	448.000	917.000
1972- 1	1931.00	532.000	899.000
1973- 1	2318.00	602.000	1325.00
1974- 1	3009.00	697.000	1903.00
1975- 1	3984.00	1007.00	2263.00
1976- 1	3909.00	1070.00	2341.00
1977- 1	6129.00	1377.00	3031.00
1978- 1	7095.00	1648.00	3768.00
1979- 1	6812.00	1556.00	4201.00
1980- 1	7757.00	2407.00	4369.00
1981- 1	8872.00	2730.00	5360.00
1982- 1	9783.00	3224.00	6005.00
1983- 1	13645.0	3228.00	7524.00
1984- 1	15466.0	3966.00	9599.00

Tshs. in millions.

APPENDIX 1

ENTRY		TOTAL GOVERNMENT EXPENDITURE# TOEX9 9	CURRENT EXPENDITURE# REX 10	ECONOMIC SERVICES EXPENDITURE# ECOEX 17	SOCIAL SERVICE EXPEND. SOEX 18
1954-	1	407.000	333.000	46.0000	64.0000
1955-	1	449.000	383.000	58.0000	78.0000
1956-	1	522.000	426.000	68.0000	90.0000
1957-	1	545.000	419.000	74.0000	95.0000
1958-	1	578.000	444.000	76.0000	101.000
1959-	1	610.000	465.000	77.0000	106.000
1960-	1	598.000	502.000	85.0000	110.000
1961-	1	641.000	505.000	81.0000	106.000
1962-	1	746.000	575.000	84.0000	123.000
1963-	1	698.000	558.000	97.0000	134.000
1964-	1	1033.00	672.000	94.0000	143.000
1965-	1	1186.00	808.000	86.0000	171.000
1966-	1	1344.00	879.000	83.0000	189.000
1967-	1	1510.00	982.000	215.000	279.000
1968-	1	1660.00	1129.00	232.000	291.000
1969-	1	1885.00	1186.00	268.000	337.000
1970-	1	2158.00	1527.00	307.000	435.000
1971-	1	2520.00	1631.00	349.000	502.000
1972-	1	2665.00	1781.00	376.000	560.000
1973-	1	3179.00	2223.00	440.000	665.000
1974-	1	4472.00	2843.00	633.000	912.000
1975-	1	6186.00	3961.00	635.000	1045.00
1976-	1	5969.00	3716.00	769.000	1350.00
1977-	1	7947.00	4703.00	852.000	1597.00
1978-	1	8894.00	5563.00	946.000	1937.00
1979-	1	13045.0	8295.00	1210.00	2156.00
1980-	1	14413.0	9229.00	1410.00	2341.00
1981-	1	14895.0	10136.0	1655.00	2480.00
1982-	1	17387.0	12903.0	1655.00	3293.00
1983-	1	19217.0	14736.0	1568.00	3692.00
1984-	1	22615.0	18182.0	1632.00	3920.00

Tshs. in millions.

APPENDIX 1

ENTRY	AGRICULTURAL OUTPUT# AFHALL 23	INDUSTRIAL OUTPUT# VIWAND 24	EXPORTS (GOODS & SERVICES)# EXPORTS 25	IMPORTS (GOODS & SERVICES)# IMPORTS 26
1954- 1	1617.00	75.0000	776.000	736.000
1955- 1	1691.00	82.0000	782.000	956.000
1956- 1	1747.00	80.0000	968.000	814.000
1957- 1	1853.00	103.000	862.000	906.000
1958- 1	1965.00	135.000	928.000	814.000
1959- 1	2104.00	142.000	996.000	852.000
1960- 1	2256.00	109.000	1178.00	940.000
1961- 1	2282.00	139.000	1056.00	1005.00
1962- 1	2485.00	154.000	1202.00	1214.00
1963- 1	2787.00	156.000	1482.00	1314.00
1964- 1	2805.00	371.000	1678.00	1398.00
1965- 1	2596.00	429.000	1600.00	1544.00
1966- 1	2919.00	525.000	2013.00	1903.00
1967- 1	2869.00	571.000	1948.00	1927.00
1968- 1	2992.00	648.000	1906.00	2102.00
1969- 1	3081.00	742.000	2041.00	2016.00
1970- 1	3381.00	828.000	2200.00	2607.00
1971- 1	3492.00	937.000	2366.00	3233.00
1972- 1	4018.00	1159.00	2745.00	3329.00
1973- 1	4539.00	1332.00	2938.00	3839.00
1974- 1	5459.00	1510.00	3400.00	5570.00
1975- 1	6933.00	1751.00	3462.00	5885.00
1976- 1	10014.0	2349.00	5297.00	5841.00
1977- 1	11563.0	2777.00	5381.00	6751.00
1978- 1	12984.0	2968.00	4692.00	9564.00
1979- 1	15051.0	3809.00	5131.00	9760.00
1980- 1	17965.0	4034.00	5540.00	11087.0
1981- 1	21769.0	3935.00	5994.00	10161.0
1982- 1	28779.0	3924.00	4855.00	10966.0
1983- 1	32813.0	4524.00	5771.00	11298.0
1984- 1	36982.0	4630.00	6339.00	13522.0

Tshs. in millions.

APPENDIX 1

B>

ENTRY	EDEX 19	HEX 20	AGREX 21	DEFEX 22
	EDUCATION EXPENDITURE #	HEALTH EXPENDITURE #	AGRICULTURAL EXPENDITURE #	DEFENCE EXPEND.#
1954- 1	47.0000	30.0000	26.0000	6.00000
1955- 1	66.0000	37.0000	30.0000	12.0000
1956- 1	71.0000	45.0000	29.0000	12.0000
1957- 1	85.0000	48.0000	34.0000	13.0000
1958- 1	94.0000	48.0000	36.0000	13.0000
1959- 1	99.0000	52.0000	38.0000	14.0000
1960- 1	93.0000	56.0000	43.0000	13.0000
1961- 1	90.0000	57.0000	44.0000	1.00000
1962- 1	123.000	65.0000	63.0000	6.00000
1963- 1	134.000	66.0000	72.0000	12.0000
1964- 1	170.000	55.0000	95.0000	22.0000
1965- 1	219.000	55.0000	76.0000	33.0000
1966- 1	176.000	63.0000	113.000	44.0000
1967- 1	181.000	63.0000	133.000	62.0000
1968- 1	194.000	75.0000	144.000	88.0000
1969- 1	221.000	86.0000	174.000	78.0000
1970- 1	289.000	118.000	218.000	127.000
1971- 1	337.000	152.000	278.000	174.000
1972- 1	379.000	158.000	253.000	260.000
1973- 1	423.000	206.000	322.000	288.000
1974- 1	543.000	290.000	523.000	494.000
1975- 1	757.000	426.000	945.000	730.000
1976- 1	842.000	425.000	845.000	726.000
1977- 1	1007.00	523.000	859.000	910.000
1978- 1	1327.00	669.000	852.000	1349.00
1979- 1	1574.00	724.000	944.000	3298.00
1980- 1	1613.00	721.000	1319.00	1110.00
1981- 1	1738.00	789.000	1450.00	1612.00
1982- 1	2440.00	981.000	1399.00	2308.00
1983- 1	2524.00	1020.00	1469.00	1555.00
1984- 1	2890.00	1130.00	2272.00	2660.00

Tshs. in millions.

APPENDIX 1

ENTRY		INCOME TAXES # INCTAX 10	TOTAL LOCAL TAXES # LOTAX 9	TOTAL FOREIGN TRADE TAXES # FTAX 8
1954	1	104.000	47.0000	78.0000
1955-	1	136.000	46.0000	107.000
1956-	1	126.000	52.0000	111.000
1957-	1	112.000	58.0000	101.000
1958-	1	121.000	65.0000	107.000
1959-	1	108.000	63.0000	131.000
1960-	1	111.000	73.0000	156.000
1961-	1	123.000	72.0000	155.000
1962-	1	122.000	72.0000	162.000
1963-	1	124.000	91.0000	200.000
1964-	1	142.000	106.000	226.000
1965-	1	153.000	130.000	275.000
1966-	1	184.000	146.000	272.000
1967-	1	233.000	172.000	335.000
1968-	1	264.000	206.000	380.000
1969-	1	339.000	239.000	422.000
1970-	1	352.000	436.000	391.000
1971-	1	448.000	489.000	430.000
1972-	1	527.000	521.000	382.000
1973-	1	601.000	829.000	482.000
1974-	1	687.000	1124.00	757.000
1975-	1	1007.00	1516.00	726.000
1976-	1	1070.00	1709.00	608.000
1977-	1	1377.00	1868.00	1163.00
1978-	1	1648.00	2329.00	1439.00
1979-	1	1556.00	2512.00	1094.00
1980-	1	2407.00	2903.00	1276.00
1981-	1	2730.00	4355.00	870.000
1982-	1	3224.00	5092.00	704.000
1983-	1	3228.00	6307.00	762.000
1984-	1	3966.00	7866.00	971.000

Tshs. in millions.

APPENDIX 1

ENTRY		CONSUMER PRICE INDEX CPRICE 24	GDP DEFLATOR YDFLE 25
1954-	1	.000000	.000000
1955-	1	.000000	.000000
1956-	1	.000000	.000000
1957-	1	.000000	.000000
1958	1	.000000	.000000
1959	1	.000000	.000000
1960-	1	.000000	.000000
1961-	1	.000000	.000000
1962-	1	.000000	.000000
1963-	1	.000000	.000000
1964-	1	.000000	.000000
1965-	1	15.8000	31.4000
1966-	1	17.3000	31.9000
1967-	1	19.4000	32.0000
1968-	1	22.5000	32.6000
1969-	1	26.2000	33.6000
1970-	1	27.1000	35.3000
1971-	1	28.3000	36.2000
1972-	1	30.5000	38.6000
1973-	1	33.7000	43.9000
1974-	1	40.2000	52.3000
1975-	1	50.8000	58.9000
1976-	1	54.3000	68.0000
1977-	1	60.6000	75.3000
1978-	1	67.5000	86.9000
1979-	1	76.8000	85.0000
1980-	1	100.000	100.000
1981-	1	125.600	119.000
1982-	1	162.000	139.800
1983-	1	205.000	153.200
1984	1	229.000	171.400

APPENDIX 1

YEAR	TOTAL REVENUE ESTIMATE	IMPORT DUTIES ESTIMATES	EXPORT DUTIES ESTIMATES	SALES TAX ESTIMATES
1967/68	939	350	47	144
1968/69	1294	404	55	190
1969/70	1520	350	58	390
1970/71	1654	380	68	422
1971/72	1823	348	61	507
1972/73	2356	394	88	644
1973/74	2613	368	112	935
1974/75	3990	648	201	1689
1975/76	3828	525	157	1593
1976/77	4563	577	240	1980
1977/78	5738	605	533	2184
1978/79	6865	950	541	2664
1979/80	7645	1150	410	3236
1980/81	8870	675	400	4825
1981/82	10571	1020	60	5829
1982/83	10591	640	10	5263

APPENDIX 1

YEAR	INCOME AND PERSONAL TAX ESTIMATES	PARASTATAL DIVIDEND ESTIMATES	VEHICLE LICENCE AND TAX ESTIMATES	MISCELLANIOUS TAXES ESTIMATES
1967/68	250		54	34
1968/69	335		29	15
1969/70	345	24	33	12
1970/71	418	37	44	11
1971/72	448	49	46	18
1972/73	615	46	42	373
1973/74	615	89	13	44
1974/75	810	103	10	54
1975/76	1011	112	10	44
1976/77	1241	85	12	46
1977/78	1387	107	11	60
1978/79	1574	200	14	48
1979/80	1854	250	38	63
1980/81	2045	250	55	22
1981/82	1784	250	50	24
1982/83	2618	249	62	28

APPENDIX 2

EVENTS WHICH HAVE OCCURRED SUBSEQUENT TO 1982/83: THE CUT-OFF DATE FOR THE STUDY.

This study has considered in detail events prior to the Fiscal Year 1982/83. However, a number of changes have taken place in the course of the subsequent years. Such changes need to be visualized in the light of the policy dialoque that had been going on between Tanzania and Aid Donors, with IMF and the World Bank being the main proxies articulating the reform policy conditions of the latter.

Between 1982 (when Tanzania launched its own version of structural adjustment programme) and 1986, there had not been an agreement between Tanzania and Aid Donors (i.e. IMF and World Bank) on what the Tanzania's domestic reform policy should exactly constitute (see Cassen, 1986: pp.90-92). However, the country had been implementing some of the policy targets in the self-prepared structural adjustment programme. The most bold reform measures which had been taken by the Government were those of eliminating subsidies on agricultural inputs, especially on fertilizers, and on foodstuffs, mainly on maize and rice. The latter were initiated in the 1984/85 budget. Moreover, in the same period (1984/85), the export-crop producer prices were raised by between 40%-55% nominal prices. The raising of agricultural producer prices was itself a continuation of a policy already adopted in previous years. (Msambichaka, Rugumisa and Amani, 1985: pp.3-4).

Other reforms which were initiated in 1984 in the area of

agricultural products included the removal of a wide range of products from the list that was controlled by the state marketing boards (World Bank, 1986: pp.74-75). On the part of the rate of foreign exchange, the shilling was devalued by 26% against the dollar in 1984 (Msambichaka, et. al. op.cit. p. 3). On the part of public spending, efforts to restrain public expenditure were initiated which included introduction of school fees in 1984/85 and the cut down in public administration employment in 1985/86 (Budget Speech, 1986/87: pp. 17-18).

The above measures were not, however, sufficient to convince the IMF and the World Bank of the Government's efforts to initiate reforms. The policy dialoque continued until the middle of 1986 when an agreement was reached. The basic conditions of this agreement as can be detected from Tanzania's 1986/87 budget included, inter alia:

1). Establishing a system of exchange rate adjustment and control that would facilitate the achievement of favourable terms of trade with other countries. This measure (coupled by a formal devaluation of about 40% in 1986) has led to a devaluation of the shilling against the sterling pound by 216% (i.e. from Tsh. 24 to Tsh. 76 over the past one year).

2). Export-crop producer prices were raised by between 30%-80%.

3). Increase in trade and imports liberalization.

4). Abolishing subsidies to Parastatals.

5). Balancing the budget (i.e. equating expenditure to revenues).

6). Adjusting the level of interest rates.

7). Imposition of further charges (fees) on education, especially secondary schools and colleges with the exception of the Universities,

the Insitute of Finance Management, and the Institute of Development Management.

The effects of these drastic measures on the economy and the budget, coupled by the new foreign money released as part of the agreement, are yet to be seen.

APPENDIX 3.

A DEFINITION OF PUBLIC SECTOR.

The term "public sector" is used in connection with activities performed by the Central and Local Government. The activities are of two types. First we have the socio-economic functions which include services like education, health and welfare services, social insurance, and the protective services such as police, fire and the administration of justice. The latter have also been labelled "pure public goods", which have been defined further by Brown et. al. (1978: p.27) as those goods with the characteristics that "each individual's consumption of such a good leads to no substitution from any other individual's consumption of that good". Such goods carry the characteristics of non-excludability and non-rejectability. The case of national defence has been used by Brown et. al.(ibid.) to exemplify the concept of pure public goods further, in that, if a country is provided with defence services, it is extremely difficult to exclude anyone who lives within that country from being defended. On the other hand, a pacifist living within a country is defended whether he likes it or not. Therefore, for such pure public goods, exclusion is either technically not feasible or, if technically feasible, expensive to apply. Furthermore, the pure public goods are considered to be non-rival in consumption in that the addition of one more consumer will not lead to subtraction from any other individual's consumption of that good. In addition to these pure public goods discussed above, there is a

second category referred to as "mixed goods". These are private goods with production or consumption externalities associated with them. The existence of technological externalities, in the sense that the production and consumption activities of one agent or group of agents affect the levels of production and consumption of other agents, influences the decisions of producers and consumers resulting in an allocation of resources that differs from that which the perfectly competitive market would have produced in the absence of externalities. Externalities are seen to generate market failures which are corrected by government. Depending on whether the externality is one of "social cost" or "social benefit", the government can counteract market failure by either forcing a reduction of output of those goods that are overproduced (eg. those causing pollution) or, it may encourage the production of those goods that are underproduced by, for example, directly producing the service (eg. education or health services), or by providing consumption or production subsidies. The second category of activities carried out by the public sector in Tanzania is that of undertaking directly productive investments, a function that ought to have been performed by private or market sector. A priori, the absence of local enterpreneural, local savings and lack of interest by foreigners to invest in Tanzania forced the Government to take up the initiative of developing the various economic sectors. As already highlighted in Chapter 3, the Government has a substantial investment interests in direct productive sectors. These investments operate as public corporations (known as Parastatal Organizations) with their financial and management separated from the parent

ministries under which they were created.

This study concentrates more on the first category of activities which involve the provision of the mixed and pure public goods, and which also depend fully on the government budget for their financing. The finances are provided in the annual budget that is approved by the Parliament in mid-June of every year. The Budget covers both expenditure and revenue forecasts of the ensuing period.

The Parastatal Organizations' budgets interface with the government budget takes place in two ways. First there is the stage of setting up the corporations. In the latter case the initial capital is subscribed by the Government through the development budget. The second stage is when the Government has to intervene to subsidize loss making corporations. In practice, the latter do not have to account directly to the Government for the resources transfered to them, unless they are requested to do so. Normally, the corporations' accountability is to the Board of Directors. The Government gets to know how the resources have been used through the corporations' Annual Reports. The latter pattern of reporting is certainly very different from the one used by government departments which have to report to the Treasury about their spending on monthly and quarterly basis.

In short, in this study the public sector activities will be considered in as much as they fall within the recurrent and development expenditure budget which is financed by Government revenues.

Finally, another point that requires some clarification is that

of the treatment of Local and Central Government in the study. The Local Governments existed upto 1972, when they were abolished. This study has combined the figures of the two levels of government. The two have been combined because, in the case of the local governments, the amounts which were being spent at that level were relatively small, and secondly, most of the revenues were of grants nature (ie. from the Central Government).

APPENDIX 6.

TABLE 6A-1: REGRESSION RESULTS ON REVENUE -GDP ELASTICITY.

(FOR THE PERIOD 1953/54 TO 1983/84)

REGRESSION EQUATION.	R2
Log(R) = Log-3.7744 + 1.225Log(Y) (-19.2) (57.6)	0.99
Log(F) = Log-1.8395 + 0.8406Log(Y) (-3.5) (14.7)	0.88
Log(L) = Log-10.085 + 1.749Log(Y) (-23.4) (37.4)	0.98
Log(S) = Log-11.689 + 1.901Log(Y) (-21.0) (32.5)	0.97
Log(I) = Log-5.6726 + 1.2762Log(Y) (-17.1) (35.5)	0.98

SYMBOLS USED.

Y - GDP at current prices.

R - Total recurrent revenues(taxes)

F - Foreign transactions taxes.

L - Local transactions taxes.

S - Sales taxes.

I - Income taxes.

The figures in parentheses are the t_ratios, which were tested for significance at the 5% level of significance.

All parameters were considered to be significant in view of the high values of t_statistics.

APPENDIX 9

Table 9A-1: Data for external finance (Loans+Grants)

Year	Col.1 Actual	Col.2 Estimated	Col.3 (1-2)	Col.4 (3/2)
1967/68	84.2	3.04	81.16	26.7
1968/69	122.8	5.74	107.06	18.66
1969/70	142.0	230.2	-88.2	-0.39
1970/71	330	319.6	10.4	0.04
1971/72	504	535.5	-31.5	-0.06
1972/73	518.3	746.6	-228.3	-0.31
1973/74	681.3	1044.3	-363.0	-0.35
1974/75	1038.6	1191.0	-152.4	-0.13
1975/76	1032.6	1967.8	-935.2	-0.48
1976/77	1402.1	1804.	-401.9	-0.23
1977/78	1368.8	2352.	-982.2	-0.42
1978/79	2427.2	3848.	-1420.8	-0.37
1979/80	2320.	4219.3	-1899.3	-0.45
1980/81	1872.	4050.	-2178.	-0.54
1981/82	1795.	4897.	-3102.	-0.64
1982/83	1852.	2584.	-732.	-0.29
		25950.08	11293.62	

Average Error = $(\sum|3|/N)/(\sum 2/N)$
= 705.86/1621.88
= 43.5%

Maximum Error = 3102/1621.88
= 191.3%

Source: United Republic of Tanzania, Economic Survey, Various Years.

APPENDIX 9

Table 9A-2: Data for Grants.

Year	Col.1 Actual	Col.2 Estimated	Col.3 (1-2)	Col.4 (3/2)
1967/68	2.5	3.04	-0.54	-0.18
1968/69	0.1	5.74	-5.64	-0.99
1969/70	0.4	1.4	-1.0	-0.72
1970/71	0.1	2.2	-2.1	-0.96
1971/72	37.8	70.1	-32.3	-0.46
1972/73	62.4	110.7	-48.3	-0.44
1973/74	214.4	366.7	-152.3	-0.42
1974/75	377.3	408.0	-30.7	-0.08
1975/76	468.7	717.2	-248.5	-0.35
1976/77	625.5	831.6	-206.1	-0.25
1977/78	709.1	1216.2	-507.1	-0.42
1978/79	1158.0	2123.0	-965.0	-0.46
1979/80	2231.0	2061.0	170.0	0.09
		7916.88	2369.58	

Average Error = $(\sum|3|/N)/(\sum 2/N)$
= 182.28/608.99
= 29.9%

Maximum Error = 965/608.99
= 158.5%

Source: United Republic of Tanzania, Economic Survey, Various Years.

APPENDIX 9

Table 9A-3: Data for Loans.

Year	Col.1 Actual	Col.2 Estimated	Col.3 (1-2)	Col.4 (3/2)
1967/68	81.7	0	81.7	-
1968/69	122.7	0	122.7	-
1969/70	121.5	228.8	-107.3	-0.47
1970/71	269.7	317.4	-47.7	-0.15
1971/72	347.4	469.4	-122.0	-0.26
1972/73	455.9	635.9	-180.0	-0.29
1973/74	466.9	677.6	-210.7	-0.31
1974/75	661.3	783.0	-121.7	-0.16
1975/76	563.9	1250.6	-686.7	-0.55
1976/77	776.6	972.4	-195.8	-0.21
1977/78	783.2	1135.8	-352.6	-0.31
1978/79	687.2	1927.0	-1239.8	-0.65
1979/80	1666.2	1836.0	-169.8	-0.10
		10233.9	3638.5	

Average Error = $(\sum|3|/N)/(\sum 2/N)$
= 279.89/787.23
= 35.6%

Maximum Error = 1239.8/787.23
= 157.5%

Source: United Republic of Tanzania, Economic Survey, Various Years.

APPENDIX 9

Table 9A-4: Data for Commitments, Disbursements, and Computed Ratios.

(MILLIONS OF DOLLARS)

UNITED STATES OF AMERICA

Year	1976	1977	1978	1979	1980	1981	1982	1983
Commitments	34.8	24.9	20.0	23.9	32.5	33.2	19.3	8.6
Disbursements	34	31	17	11	29	33	25	20
%	97.7	124.5	85	46	89.2	99.4	129.5	232.5

WEST GERMANY

Year	1976	1977	1978	1979	1980	1981	1982	1983
Commitments	57.8	36.4	62	78.8	267.4	38.3	69.8	27
Disbursements	21.2	30	56.3	80.5	209	54.5	59	36.3
%	36.6	82.4	90.8	102.2	78.2	142.3	84.5	134.4

SWEDEN

Year	1976	1977	1978	1979	1980	1981	1982	1983
Commitments	58.1	181.6	72.2	185.9	16.6	82.7	78.1	60.8
Disbursements	51.8	57.7	114.4	93.4	78.1	76.5	73.8	69.3
%	89.2	31.8	158.4	50.2	470.5	92.5	94.5	113.9

NETHERLANDS

Year	1976	1977	1978	1979	1980	1981	1982	1983
Commitments	30.8	71.2	123.8	76.1	107.0	78	49.8	33.5
Disbursements	27.6	45.6	94.9	81.5	87.3	74.4	57.5	35
%	89.6	64	76.6	107.1	81.6	95.4	115.5	104.5

CANADA

Year	1976	1977	1978	1979	1980	1981	1982	1983
Commitments	17.9	92.4	110	47.2	9.1	13.4	76.8	25.9
Disbursements	20.3	9.7	92.1	28.6	19.4	27.2	35.2	33.9
%	113.4	10.5	83.7	60.6	213.2	202.9	45.8	130.8

Table 9A-4 continues.

NORWAY

Year	1976	1977	1978	1979	1980	1981	1982	1983
Commitments	10	19.7	10.1	48.4	31.6	61.9	35.5	45.5
Disbursements	14.5	25.7	30.7	35.1	44.2	40.1	51.9	54.9
%	145	130.5	303.9	72.5	139.9	64.8	146.2	120.7

IDA

Year	1976	1977	1978	1979	1980	1981	1982	1983
Commitments	61.1	49.2	99.5	53	149.3	93.6	50.5	59.3
Disbursements	28.9	39.4	24.4	39	35	78.2	98.6	64.9
%	47.3	80.1	24.5	73.6	23.5	83.5	195.2	109.4

E.E.C.

Year	1976	1977	1978	1979	1980	1981	1982	1983
Commitments	-	62.5	21.5	25.8	25.1	53.6	61.4	11.7
Disbursements	5.7	10.6	19.9	29.2	25.1	40.6	30	27.1
%		16.9	92.6	113.2	100	75.7	48.9	231.6

UNITED KINGDOM

Year	1976	1977	1978	1979	1980	1981	1982	1983
Commitments	-	8.4	69.5	117.1	30.6	33	14.5	36.9
Disbursements	-	11.7	19.8	46.5	74.5	56.0	41.2	43.9
%	-	139.3	28.5	39.7	243.5	169.7	284.1	118.9

OVERALL

Year	1976	1977	1978	1979	1980	1981	1982	1983
Commitments	409.1	637.8	762.1	877.2	946.6	702.6	728.4	524
Disbursements	274.3	348.8	587.5	649.6	810.2	684.6	702.0	609
%	67	54.7	77.1	74.1	85.6	97.4	96.4	116

Source: OECD: Geographical Distribution of finantial flows to Developing Countries: Op. cit. Various years.

Appendix 9

Table 9A-5
THE CARRY-OVER OF UNDISPURSED APPROPRIATIONS

Country	Financial limits on the carry-over authority	Time limits on the carry-over authority	Approval process for the carry-over authority	Special provisions
Canada	Undisbursed funds lapse	-	-	-
Denmark	Undisbursed funds lapse	-	-	Funds under certain heads may be carried over to next FY to compensate for over expenditure elsewhere
Finland	-Grants can be carried forward with no limit -Loans lapse	The two following fiscal years	Automatic	
France	Funds in principle lapsing but usually a 10% carry-over authority	One year	Minister of the budget	Some appropriations for capital assistance benefit from a non-lapsing provision
Germany	Undisbursed funds in principle lapse(1)	The two following fiscal years	Ministry of Finance	Carry-over is not additional to newly voted appropriations
Netherlands	Undisbursed funds in principle lapse(2)	-	Parliament with the Minister for Development Co-operation	Minister can indicate parts of budget which should benefit from a non-lapsing provision
New Zealand	Undisbursed appropriations lapse	-	-	-
Norway	-Multilateral aid lapses -No limit on the carry-over of bilateral and multi-bi funds	Two years	Ministry of Finance	-
Sweden	Unlimited carry-over authority	-	Automatic	-
Switzerland	Undisbursed funds lapse	-	-	-
United Kingdom	Funds lapse except for a £15 million carry-over facility	One year	Automatic	
United States	-Unlimited for allocated funds -Conditional for authorised but unallocated funds	-	Congress approves carry-over of unallocated funds on an annual basis	-
EEC for budgetary resources only	Unlimited carry-over authority	-	Automatic	

1) In some cases carry-over for an individual item may be specifically or generally allowed by legislation.
2) Funds lapse in principle but undertakings on aid volume are regarded as cumulative.

Source: Adapted from OECD (1981) Compendium of Aid Procedures. Op.cit Table IV.3 p.49.

Appendix 9

Table 9A-6

Project Investment Costs From Selected Projects of Third Five Year Planning Period (in Millions of Shillings)

Project	Initial Estimates	Actual Costs	%Change
Mwater Expansion	413.90	413.90	0
Musoma Textile Mill***	424.60	565.00	33.07
Tabora Spinning Mill	313.50	245.00	(21.85)
Mbeya Textile Mill	433.70	433.70	0
Polyester Cotton Blend	305.00	869.00	184.92
Miltex Expansion	96.30	252.33	162.02
Ubungo Garments	29.70	15.4	(48.15)
Urafiki Expansion	6.90	6.90	0
Ubungo Spinning Mill	162.35	185.90	14.51
Tanga Cement Factory***	676.32	843.19	24.67
Mbeya Cement Factory *	595.66	714.35	19.93
National Bicycles	53.50	67.20	25.61
Insulated Wire Cables	19.20	36.90	92.19
Mbeya Farm Implements***	42.00	85.00	102.38
Motor Vehicle Assembly	31.00	50.00	61.29
Transformers and Switch Gears*	774.705	90.108	20.62
Morogoro Shoe Factory	108.20	228.00	110.72
Mwanza Tannery**	32.50	40.40	24.30
Powder Detergent***	57.82	59.04	2.11
Pharmaceuticals***	49.26	72.00	46.16
Polysacks*	30.00	40.75	35.83
Moshi Malt Project**	200.00	223.452	11.73
Total	4,156.115	5,537.52	33.24

Notes: Cost overuns due to delays (*), Due to incomplete information (**)

Source: adapted from Stein, Howard, Planning and the Crisis in Tanzania, Table 3, p.26. University of Dar es Salaam (Seminar Paper).

APPENDIX 10

TABLE 10A-1: RECURRENT EXPENDITURE DATA.

YEAR	Col.(1) ESTIMATED EXPENDITURE	Col.(2) ACTUAL EXPENDITURE	Col.(3) ACTUAL LESS ESTIMATE	Col.4 =(3)/(1) (%)
1967/68	1065	1065	0	0
1968/69	1186	1186	0	0
1969/70	1527	1526.7	-0.3	0
1970/71	1631	1631.4	0.4	0
1971/72	1596	1596	0	0
1972/73	2087	2223	136	6.5
1973/74	2513	2869	356	14.2
1974/75	3464.3	4373	908.7	26.2
1975/76	3630	4300	670	18.5
1976/77	4183	4702.5	519.5	12.4
1977/78	5461	5563.3	102.3	1.9
1978/79	6971	8295	1324	19.0
1979/80	7788	9229	1441	18.5
1980/81	9342	10136	794	8.5
1981/82	11605	13214.1	1609.1	13.9
1982/83	14144	14871.5	727.5	5.1

Source: United Republic of Tanzania, Estimates Reports, Various Years.

APPENDIX 10.

TABLE 10A-2: MINISTERIAL ERROR DATA.

(All Sh. Figures are in millions)

MINISTRY OF NATIONAL EDUCATION

YEAR	'67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5	75/6	76/7
ERROR (Sh)	-2	0	-4	-1	-8	-11	47	38	69	24
ERROR (%)	1.2	-	-1.6	-0.4	-2.4	-5.6	21	12.2	24	6.6

YEAR	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (Sh)	-14	10	-28	-13	0	-32
ERROR (%)	-3.2	2.2	-5.7	-2.2	-	-3.4

MINISTRY HEALTH AND SOCIAL WELFARE

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5	75/6
ERROR (Sh)	-2	5	10	21	17	1	15	14	2
ERROR (%)	-3.2	7.4	10	17.8	12.1	1.1	15.6	12.1	1.6

YEAR	76/7	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (Sh)	17	17	-8	5	5	-18	-12
ERROR (%)	11.4	7.7	-3.0	1.8	1.7	-4.9	-3.4

Appendix 10, Table 10A-2 continue.

MINISTRY OF DEFENCE AND NATIONAL SERVICE

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5	75/6	76/7
ERROR (Sh)	21	4	2	-10	14	-4	27	-124	62	-43
ERROR (%)	40.4	6	2.5	-6.7	9.9	-2	9.2	-34.3	14.8	-32.1

YEAR	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (Sh)	-33	1554	639	1135	372	724
ERROR (%)	-5	170	487.8	741.8	22.8	52.9

MINISTRY OF AGRICULTURE, FORESTRY AND WILDLIFE.

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5
ERROR (Sh)	0	6	8	18	-4	-5	-1	8
ERROR (%)	-	7.1	5.3	15.8	-2.8	-6.1	-0.5	2

YEAR	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (Sh)	2	20	-5	-36	75	11	-25	60
ERROR (%)	2	10.9	-4.9	-29	75.8	8.5	-16.3	39

MINISTRY OF COMMUNICATIONS, LABOUR AND WORKS.

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5	75/6
ERROR (Sh)	-9	5	59	-7	-3	-16	-14	6	-1
ERROR (%)	-19	5.3	43.1	-4.3	-2	-17.8	-15.6	85.7	-10

YEAR	76/7	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (Sh)	-1	0	-54	41	8	-1	0
ERROR (%)	-9.1	-	-16.7	13.3	11.9	-1.0	-

Appendix 10, Table 10A-2 Continue.

MINISTRY OF LANDS, SETTLEMENT AND WATER DEVELOPMENT.

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5	75/6
ERROR (SH)	-2	-2	4	-6	-1	0	0	2	1
ERROR (%)	-10.5	-9.5	12.5	-12.5	6.3	-	-	16.7	16.7

YEAR	76/7	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (Sh)	0	-1	-2	7	0	-1	0
ERROR (%)	-	-3.3	-5.6	17.1	-	-2	-

MINISTRY OF HOME AFFAIRS

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5	75/6
ERROR (Sh)	-1	12	13	0	-8	-4	48	40	11
ERROR (%)	-1.1	13.3	12	-	-5.7	-2.5	25.7	17.5	4.6

YEAR	76/7	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (Sh)	26	58	43	53	105	106	152
ERROR (%)	9.9	20.1	11.7	13.1	23.5	16.8	22.3

MINISTRY OF FOREIGN AFFAIRS.

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5
ERROR (Sh)	1	0	2	-1	2	-3	-14	11
ERROR (%)	6.3	-	10	-2.7	8.3	-8.6	-28	23.9

YEAR	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (Sh)	16	23	13	13	33	35	-6	51
ERROR (%)	47.1	46.9	23.2	15.7	37.5	34.3	-3.4	37

Appendix 10, Table 10A-2 Continue.

MINISTRY OF INFORMATION AND TOURISM.

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5
ERROR (Sh)	0	0	1	-3	-1	1	0	3
ERROR (%)	-	-	9.1	-18.8	-7.1	6.3	-	25

YEAR	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (SH)	3	3	1	6	0	-10	-11	0
ERROR (%)	17.6	17.6	5.6	20.7	-	-15.6	-14.5	-

MINISTRY OF JUDICIARY

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5
ERROR (Sh)	1	1	1	2	1	-1	1	2
ERROR (%)	14.3	12.5	5.9	10.5	5.3	-4.3	3.6	6.3

YEAR	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (Sh)	-1	1	3	0	7	5	4	6
ERROR (%)	-2.6	2.4	6.8	-	14	7.9	4.6	6.5

MINISTRY OF FINANCE AND DEVPLAN.

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5
ERROR (Sh)	-6	-8	68	-45	-55	-18	-24	120
ERROR (%)	-4.4	-4.1	30.1	-16.9	-20.4	-12.8	-13	73.6

YEAR	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (Sh)	-239	-209	-305	-169	-503	-727	-30	-753
ERROR (%)	-44.8	-27.9	-37.4	-22.7	-60.5	-47.1	-1.3	-26.7

Appendix 10, Table 10A-2 Continue.

MINISTRY OF INDUSTRIES, COMMERCE (& MINERAL RESOURCES & POWER).

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5
ERROR (Sh)	-1	0	-1	-2	-1	0	-2	2
ERROR (%)	-10	-	-10	-20	-11.1	-	-14.3	10

YEAR	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (Sh)	2	-1	3	-9	0	1	1	18
ERROR (%)	15.4	-4.5	12.5	-12.5	-	1.8	1.5	25.4

SOURCE: United Republic of Tanzania. Computed from Ministerial data as supplied in the Appropriation Accounts and Annual Estimates Books. Various Years.

APPENDIX 10

Table 10A-3: Comparison of Ceilings with Allocations.

Ministry/Department/ Region	Co.5 Ceiling	Co.6 Request	Co.7 Accepted Requests	CO.8 6/5	Co.9 7/5	Co.10 7/6
	(1985/86)	(1985/86)	(1985/86)			
Ikulu	21.2	27.1	25.1	1.28	1.18	0.93
Deni la Taifa	5999.0	6632.6	6426.6	1.11	1.07	0.97
Ofisi ya Rais	266.4	423.3	311.7	1.59	1.17	0.73
Ofisi ya Makamu	9.9	12.9	10.5	1.30	1.06	0.82
Utumishi	135.9	167.2	167.6	1.23	1.23	1.00
Uongozi	3.4	4.0	3.4	1.18	1.00	0.85
Nje	193.0	308.3	280.3	1.60	1.45	0.91
Mwenendo	4.1	5.7	4.3	1.36	1.02	0.75
Tumeajiri	3.2	3.8	3.3	1.19	1.03	0.87
Waziri Mkuu	672.4	975.7	757.5	1.45	1.13	0.79
Ngome	2319.3	3107.0	2461.8	1.34	1.06	0.79
Jkt	376.2	538.9	445.0	1.43	1.18	0.83
Mahakama	141.6	202.9	163.2	1.43	1.15	0.80
Sheria	18.7	19.4	18.4	1.04	1.00	0.96
Bunge	21.8	30.7	26.7	1.42	1.22	0.86
Kilimo & Mifugo	837.4	1072.7	889.7	1.28	1.06	0.83
Viwanda & Bihashara	95.1	118.6	107.7	1.25	1.13	0.90
Ukaguzi	15.0	19.5	19.5	1.30	1.30	1.00
Elimu	1433.4	1689.1	1639.7	1.18	1.14	0.95
Mawasiliano& Ujenzi	773.3	1115.0	773.3	1.44	1.00	0.69
Ardhi Maliasili Utalii	214.6	281.0	219.7	1.31	1.02	0.78
Maji Nishati Madini	103.3	224.4	132.1	2.17	1.28	0.59
Hazina	410.8	472.9	410.8	1.15	1.00	0.87
Mambo ya Ndani	1387.7	2036.8	1612.4	1.47	1.16	0.79
Afya	561.3	773.2	694.3	1.38	1.24	0.89
Mipango na Uchumi	45.0	59.6	50.3	1.32	1.12	0.85
Radio Tanzania	48.2	51.9	48.1	1.08	1.00	0.93
Makao Makuu	24.5	27.7	27.0	1.12	1.09	0.97
Tumebei	6.5	8.3	6.6	1.28	1.02	0.80
Ulinzi	73.0	81.5	76.0	1.12	1.04	0.93
Scopo	3.9	6.9	6.4	1.77	1.64	0.93
Law Reform Commission	2.1	2.7	2.3	1.29	1.10	0.85
Total Ministry/Depart.	10201.6	13841.9	11369.2	1.36	1.11	0.82
Special Expenditure	2036.0	2036.0	2036.0	1.00	1.00	1.00
Serikali Za Mitaa						
Wilaya	1315.7	4100.0	3246.5	3.12	2.47	0.79
Miji	336.4	747.2	686.8	2.22	2.04	0.92

Appendix 10, Table 10A-3 Continue.

REGIONS	Co.5	Co.6	Co.7	Co.8	Co.9	Co.10
Arusha	86.0	107.9	97.4	1.25	1.13	0.90
Pwani	62.8	113.2	71.4	1.80	1.14	0.63
Dodoma	102.2	123.4	123.4	1.21	1.02	0.84
Iringa	80.6	106.6	91.2	1.32	1.13	0.86
Kigoma	63.3	82.8	70.3	1.31	1.11	0.84
Kilimanjaro	90.1	119.2	93.7	1.32	1.04	0.79
Lindi	57.4	76.3	61.4	1.33	1.07	0.80
Mara	72.7	109.8	79.4	1.51	1.09	0.72
Mbeya	83.0	118.8	87.6	1.43	1.05	0.73
Morogoro	107.1	130.2	117.4	1.22	1.10	0.90
Mtwara	76.2	87.1	82.1	1.14	1.08	0.95
Mwanza	97.7	119.9	107.5	1.22	1.10	0.90
Ruvuma	57.8	97.4	69.5	1.69	1.20	0.71
Shinyanga	89.7	97.3	92.5	1.08	1.03	0.95
Singida	62.7	88.2	68.8	1.41	1.10	0.78
Tabora	75.9	128.6	93.0	1.69	1.23	0.72
Tanga	93.5	116.3	105.6	1.24	1.13	0.91
Kagera	58.6	50.3	63.2	0.86	1.08	1.26
Dar es Salaam	33.8	13.5	9.7	0.40	0.29	0.73
Rukwa	49.7	75.8	54.0	1.53	1.09	0.72
Total for Regions	1500.6	1962.7	1619.9	1.31	1.08	0.82
Grand Total	21410.6	29347.4	25410.1	1.37	1.19	0.87

Source: United Republic of Tanzania, Treasury Documents.

APPENDIX 11

TABLE 11A-1: DEVELOPMENT EXPENDITURE DATA.

(Shs. are in millions.)

YEAR	Col.1 ACTUAL EXPENDITURE (Shs.)	Col.2 ESTIMATED EXPENDITURE (Shs.)	Col.3= Col:2-1 # (Shs.)	Col.4= Col:3/2 (%)
1967/68	344	277	67	24.2
1968/69	461	320	141	44.1
1969/70	610	703	-93	-13.2
1970/71	830	910	-80	-8.8
1971/72	884	1182	-298	-25.2
1972/73	956	1379	-423	-30.7
1973/74	1629	2065	-436	-21.1
1974/75	1703	2259	-556	-24.6
1975/76	1669	3010	-1341	-44.6
1976/77	3244	3502	-258	-7.4
1977/78	3331	4335	-1004	-23.2
1978/79	4749	5296	-547	-10.3
1979/80	5184	7187	-2003	-27.9
1980/81	4759	7041	-2282	-32.4
1981/82	5185	6622	-1437	-21.7
1982/83	4404	4816	-412	-8.6
TOTAL		50904	11378	

AVERAGE ERROR = $(\sum 13/N)/(\sum 2/N)$
= (11378/16)/(50904/16)
= 22.4%

- The total for column 3 is for the absolute figures

SOURCE: United Republic of Tanzania, Estimates Reports. Various Years.

APPENDIX 11

TABLE 11A-2: MINISTERIAL DEVELOPMENT EXPENDITURE ERRORS.

MINISTRY OF NATIONAL EDUCATION:

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5
ERROR (%)	-48.8	-81	-38	-40.3	-40.7	-41.7	N/A	-53
YEAR	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (%)	-38.4	-32.7	-	-57.4	-45.7	-31	-	-21.2

MINISTRY OF HEALTH AND SOCIAL WELFARE.

YEAR	67/8	68/9	69/80	70/1	71/2	72/3	73/4	74/5
ERROR (%)	-61.2	-17.4	-37.5	-29.2	-37.5	-44.4	N/A	-33.3
YEAR	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (%)	-33.3	-35	-31.6	-50.8	-63.8	-58	-60.3	-77.5

MINISTRY OF AGRICULTURE, FORESTRY AND WILDLIFE.

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5
ERROR (%)	-72.6	-55.7	-16.7	-25.2	-12.7	-18.8	N/A	-49.8
YEAR	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (%)	-36.1	-31.5	-31.6	-37.7	-28.4	-4.8	-25.6	-24.6

Appendix 11, Table 11A-2 Continues.

MINISTRY OF INDUSTRIES, COMMERCE, MINERAL RESOURCES AND POWER.

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5
ERROR (%)	-95.2	-59.3	-2.3	-9.8	-38.5	-27.3	N/A	-30.3

YEAR	75/6	76/77	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (%)	-43.6	-15.7	-17.9	-40.1	-29.7	-37.6	-12.7	19.2

MINISTRY OF INFORMATION AND TOURISM:

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5
ERROR (%)	0	-33.3	-100	-100	-80	-66.7	N/A	0

YEAR	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (%)	0	-28.6	-62.5	300	-5	-25	0	-50

MINISTRY OF DEFENCE:

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5
ERROR (%)	40.4	-51	12.8	15.3	-8.6	-27.6	25.9	8.5

YEAR	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (%)	N/A	-28.6	36.1	-13.3	-36.2	-39	38.1	N/A

Appendix 11, Table 11A-2 Continue.

MINISTRY OF FOREIGN AFFAIRS

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5
ERROR (%)	-50	0	0	0	0	0	N/A	0

YEAR	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (%)	0	-88.9	0	-50	-34.8	0	28.6	22.2

MINISTRY OF LAND, SETTLEMENT AND WATER DEVELOPMENT:

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5
ERROR (%)	-46	-50.9	-41	-12.5	-10	-40	N/A	18.8

YEAR	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (%)	-23.2	-55.7	-47.5	-29.2	-48.7	-36.0	21.2	1.2

MINISTRY OF COMMUNICATION AND WORKS:

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5
ERROR (%)	-33.8	27.8	-30.2	-13.3	-8.2	-21.8	N/A	-20.4

YEAR	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (%)	-26.4	-6	-32.8	-53	-30.7	-51.1	-24.8	-9.4

Appendix 11, Table 11A-2 Continue.

MINISTRY OF HOME AFFAIRS

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5
ERROR (%)	-33.3	-50	-28.6	-18.2	-9.1	-18.8	N/A	-20.4

YEAR	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (%)	30	0	10.5	-23.1	-20.5	8.3	3.6	8.9

MINISTRY OF FINANCE AND PLANNING:

YEAR	67/8	68/9	69/70	70/1	71/2	72/3	73/4	74/5
ERROR (%)	-10	-2.2	223.7	-41.9	-21.5	-34.5	-0.1	-38.5

YEAR	75/6	76/7	77/8	78/9	79/80	80/1	81/2	82/3
ERROR (%)	-54.4	-55	-35.3	-21.8	-45.9	-72	-89.2	-47.5

NOTE: (a) N/A- The figures for this period were not available for the computation of errors.

(b) Error is the difference between the actual and the prediction divided into the prediction and expressed as a percentage.

SOURCE: United Republic of Tanzania, Computed from Ministrial data as supllied in the Appropriation Accounts and Annual Estimates Books. Various Years.

APPENDIX 11

Table 11A-3: Share of Parastatal Enterprises' Capital Formation in Total National Capital Formation.

Period	Parastatal Investiment (Tsh.in mill)	National Investment (Tsh.in mill)	Share of Parastatal to National (%)
1971	467.5	2591	18
1972	500	2439	21
1973	516	2760	19
1974	571	3516	16
1975	1098	4004	27
1976	1662	5597	30
1977	2538	7524	34
1978	2517	8094	31
1979	2353	9458	25
1980	2526	9685	26
1981	2174	11130	20
1982	3533	12235	29
1983	2556	11068	23

Source: United Republic of Tanzania, Economic Survey , Various Years (especially 1982 and 1983)

APPENDIX 12

TABLE 12A-1:DETERMINANT OF FOCASTING ERRORS USING ADJUSTED ESTIMATES

YEAR	ACTUAL EXPENDITURE	AJUSTED ESTIMATES	ERROR
1967/8	305	-71	376
1968/9	412	-184	596
1969/70	369	410	-41
1970/1	688	530	158
1971/2	555	520	+35
1972/3	360	881	-521
1973/4	850	1372	-522
1974/5	1865	1409	456
1975/6	1804	1888	84
1976/7	855	1913	-1058
1977/8	1936	2950	-1014
1978/9	4134	3147	987
1979/80	5261	5580	-319
1980/1	4865	4394	471
1981/2	5373	4884	489
TOTAL (Absolute)			7127

NOTE: (a). Average error as a ratio of GDP is derived as follows:

$$(\sum|E|/N)/\ (\sum G/N) = (7127/15)/(314703/15) = \underline{2.27}$$

(E stands for errors, while G stands for GDP values).

(b) The Adjusted Estimates have been computed using the Realization Function: A = -548.103 + 1.163E

SOURCE: United Republic of Tanzania, Estimates of Public Expenditure, Various Years. (Applies to data on actual expenditure).

APPENDIX 13

TABLE 13A-1: DATA ON PRIMARY SCHOOLS.

YEAR	No. OF STUDENTS (Std.1-V111)	No. OF TEACHERS	TOTAL RECURRENT BUDGET	CUMMULATIVE DEVELOPMENT INVESTMENT
			'000Shs.	'000Shs.
1967/8	765169	16377	61913	1884*
1968/9	776109	16577	134005	3896*
1969/70	827974	17790	146734	18569*
1970/1	902609	19876	137302	38387
1971/2	1003396	20938	167963	47687
1972/3	1106387	23165	INC	56987
1973/4	1288886	25254	129635	66287
1974/5	1532953	28783	275370	75587
1975/6	1954442	39245	288235	129495
1976/7	2194213	45330	358955	175750
1977/8	2913000	64000	578128	236535
1978/9	3197000	77000	630294	309761
1979/80	3361000	81000	740179	393793
1980/1	3531000	82000	819484	473678
1981/2	3504000	88000	1085447	524837
1982/3	3553000	90000	INC	572703

NOTES: INC- stands for incomplete: the Accounts were not complete for that period. Hence, data was not extracted.

*-no cummulative investment from prior years (i.e. 1966/67 downwards).

SOURCE: United Republic of Tanzania; The Economic Survey, Various Years. Estimates of Public Expenditure (Supply Votes-Regional) Volume 111, Various Years, and Estimates of Public Expenditure (Supply Votes - Ministries), Various Years.

APPENDIX 13.

TABLE 13A-2: DATA RELATING TO SECONDARY SHOOLS.

YEAR	STUDENT NUMBER	TEACHER NUMBER	OFFICE EXPENSES	MAINTENANCE AND RUNNING EXP.	SPECIAL EXPEND.	RUNNING OF SCHOOL EXPENSES
			'000Shs.	'000Shs.	'000Shs.	'000Shs.
1967/8	28043	1336	N/A	396	396	N/A
1968/9	29958	1474	3606	711	1133	N/A
1969/70	31217	1638	N/A	N/A	N/A	N/A
1970/1	32603	1706	4311	1347	1167	N/A
1971/2	33413	1747	3999	1248	217	N/A
1972/3	34502	1626	5717	1966	264	N/A
1973/4	35926	1855	5078	2820	779	N/A
1974/5	38327	1947	N/A	N/A	N/A	N/A
1975/6	39947	2225	4317	3043	240	40726
1976/7	41965	2355	5379	3423	275	40965
1977/8	41792	2392	6452	4306	1075	49215
1978/9	40298	2230	6428	3948	2551	48083
1979/80	38830	2121	4892	4893	3186	42789
1980/1	38292	2105	4455	5774	3546	71896
1981/2	38982	2054	N/A	N/A	N/A	N/A
1982/3	39737	2213	5257	12149	3024	144493

SOURCE: United Republic of Tanzania,

1). Estimates of Public Expenditure_ Supply Votes (Ministries and Regions), Various Years.
2). The Economic Survey, Various Years.

APPENDIX 13.

TAB.13A-3: DATA RELATING TO HEALTH.

YEAR	No. OF DR.s, ASS. MED. OF., & MED. OF.	No. OF ALL STAFF (DR. AMO.,NURSES	No. OF IN- AND OUT PATIENTS	TOTAL RECURRENT EXPENDITURE FOR HOSPITALS #
			'000s	Shs. in mill.s
1971/2	969	5796	57136	137.5
1972/3	1078	6423	63811	INC
1973/4	1248	7174	82517	251.45
1974/5	1402	8115	87258	323.07
1975/6	1646	9086	93734	333.86
1976/7	1880	10561	98418	393.23
1977/8	2092	11783	105313	502.48
1978/9	2323	13559	107780	542.60
1979/80	2547	15105	108744	570.82
1980/1	2830	16913	112298	702.60
1981/2	3214	19300	118510	829.00

NOTE: #--The expenditure is for Hospital Services and Preventive Services, It combines centrally (Ministerial) incurred expenditure and Regionally incurred expenditure.

INC--Stands for incomplete: data not available in sufficient details.

SOURCE: United Republic of Tanzania, Estimates of Public Expenditure (Supply Votes), Various Years. Also the Economic Survey, Various Years.

APPENDIX 13

Table 13A-4:

Illustrative summary of the recurrent expenditure implications of projects as a proportion of investment expenditure across development sectors ("r" coefficient)

SECTOR	"r" coefficient
AGRICULTURE	
Fisheries	0.08
Forestry	0.04
General Agriculture	0.10
Livestock	0.14
Rural Development	0.08 - 0.43
Veterinary Services	0.07
Buildings	0.01
EDUCATION	
Agricultural Colleges	0.17
Polytechnic Schools	0.17
Primary Schools	0.06 - 7.0
Secondary Schools	0.08 - 0.72
Universities	0.02 - 0.22
HEALTH	
District Hospitals	0.11 - 0.30
General Hospitals	0.183
Medical Auxiliary Training Schools	0.14
Nurses College	0.20
Nutrition Rehabilitation Unit	0.34
Rural Health Centers	0.27 - 0.71
Urban Health Centers	0.17
HOUSING	0.03
MANUFUCTURING, COMMERCE, and CONSTRUCTION	0.01
ROADS	
Feeder Roads	0.06 - 0.14
Paved Roads	0.03 - 0.07
Social and rural development	0.04
Tourism	0.05

Note:
These coefficients are drawn from a very restricted sample of developing countries, and are meant to illustrate the variability one can observe across sectors and projects.
Example: If a poltechnic school costs $ 1 mill. to construct and equip, on the basis of an "r" coefficient of 0.17, we can esti_ mate that it would cost on average $ 170,000 in each subsquent year to pay the teaching staff, to operate facilties and to maintain the buildings.

Source: Adapted from Heller 1979: op. cit. p. 39.

APPENDIX 14.

NOTE ON THE USE OF THE QUESTIONNAIRES.

The questionnaires appearing in this appendix were used by the researcher mainly as a guide to the interviews he held with the accounting officers responsible for budget matters at both Ministerial and Regional levels. However, the questionnaire on recurrent expenditure (pp. 583-587) was mailled to accounting officers in some of the outlaying Regions for completion.

APPENDIX 14(a).

QUESTIONNAIRE FOR RECURRENT EXPENDITURE BUDGET TO BE COMPLETED BY MINISTERIAL AND REGIONAL OFFICERS INVOLVED IN BUDGET PREPARATION.

GENERAL

1. What is the office designation of officer in charge of recurrent expenditure budget preparation?
2. What is the number of establishments (sections, departments, or divisions) taken care of in the budget prepared at this level?
3. Does this department receive mini-estimates from the establishments?
4. If answer to question 3 above is Yes, at what time of the fiscal year are such mini-estimates received?
5. What is the size of staff working on the budget.....
   How many have post form four education.....
   How many have at least 1 year training in accounting or finance/economics .....
6. What is the staff establishment for the budget office?
7. What is the staff short fall in each key position?
8. Is there staff misallocation in the budget office? (state the extent of misallocation).
9. Does manpower shortage in the section affect the preparation of the budget? Explain.

HOW ESTIMATES ARE PREPARED.

10. Are there (written) guidelines for preparing the estimates (YES/NO)
11. If answer to question 10 above is YES, give answers to the following questions.
    11.1 From whom are the guidelines received?
    11.2 At what date are they received?
    11.3 How specific are they? (ie. do they include figure limits, ratios, indices etc.) Give a brief comment.
    11.4 Can you follow them (mention any problems you have with such guidelines)
    (Kindly provide me with most recent copy of the guidelines).
12. Do you receive any additional advice before preparing the estimates (YES/NO)
13. If the answer to question 12 above is YES, provide answers to the following
    13.1 From whom do you receive the advice (name of office)
    13.2 At what time of the year are they received?
14. Do you see any body from the reviewing authority for more advice?
15. If answer to question 14 is YES, who are they? (name of office)
16. What additional information or instructions can you get from the reviewing authority. Mention briefly.
17. What factors do you take into account in estimating personal emoluments. .....
18. Is there a continuous review of the staffing position to

justify present and projected employment in the ministry/department etc.

19. What factors do you take into account in estimating non-personal emolument expenses. kindly mention any special methodology (formula) used in estimating some of the major items.....

20. How do you take into account the changing price situation in preparing the estimates?

21. Do you consult the Ministry of Manpower Development for any advice during the budget preparation session?

22. What other factors (qualitative and quantitative) influence your decision of what to ask for?

23. Can you tell what you are likely to get out of what you have prepared?

24. If the answer to question 23 is YES, then, how do you know?

25. Are you ever in danger of getting the amount requested cut down significantly? (YES/NO)

26. If answer to question 25 is YES, how do you protect yourself? What steps or measures do you take to ensure that the cutting would not affect your real requirement?

27. Besides what you may request which is constrained by government's limited resources, do you attempt to prepare realistic estimates?

28. If answer to question 27 is YES, answer the following questions:

28.1 Do you have evidence for such work?

28.2 What methods (techniques) do you use to forecast the

estimates given the present level of cummulative investment and activity in your Department/Ministry?

29. If answer to question 27 is YES, and if there is a significant discrepancy between such annual figures and what you are limited to, do you sound any warnings to your reviewing officers about what the repercussions might be? (YES/NO..... Any evidence of a report nature?)
30. If answer to question 27 is NO, why has this not be done?
31. If you want to initiate a new programme which is not of development nature (ie. is not capital expenditure), how would you set about getting new funds? (Describe briefly the procedure you follow and the analysed information that you would have to provide)
32. At what stage of processing development projects do you include their recurrent expenditure in your recurrent budget?
33. Do you make a forecast of recurrent costs associated with new development projects being undertaken? Any evidence?
34. In estimating recurrent costs for activities requiring big outlays, do you consider various alternatives of carrying out that activity which would keep costs down? (YES/NO)
35. If answer to question 34 is YES, kindly cite a few examples of activities in the 1984/85 budget where the alternatives were considered, and the type of comparison or analysis that was carried out.
36. In view of the present foreign exchange problems, do your estimates indicate costs related to directly imported

resources and locally produced resources? (YES/NO)

37. If the answer to question 36 is NO, why is it not done?
38. In the past five years, have had problems in carrying out your activities which were caused by shortage in imported resources? Which areas were hard hit?
39. If the answer to question 38 is YES, did it influence your estimates? Explain how they were affected.
40. Given the current economic problems which limit financial resources flowing to the government, what specific measures have you taken/do you contemplate to take to reduce spending.
41. How long does it take to prepare the estimates? Explain.
42. Do you prepare your estimates on a standard form? (YES/NO)
43. If answer to question 42 is YES, is the form useful? (Kindly provide a copy of the form)
44. Do your estimates get to the higher reviewing authority in time? (YES/NO)
45. What happens if the estimates are submitted late?
46. Are the estimates you submit to the reviewing authority discussed with you. (YES/NO)
47. Are the estimates returned to you for revision from reviewing office? Explain.

APPENDIX 14(b).

QUESTIONNAIRE ON THE REVIEW OF CURRENT EXPENDITURE TO BE COMPLETED BY MINISTRY OF FINANCE AND OTHER MINISTRIES/REGIONS ON SELECTIVE BASIS.

1. What is the period set for submission of the estimates to you?
2. From which specific offices do you receive the estimates?
3. Are the estimates normally submitted in time?
4. If they are submitted late, how do you handle the situation?
5. In respect of the estimate you receive:

    5.1 Are there clear instructions or guidelines for carrying out the review?

    5.2 Do you relate some of the estimates to particular social and economic indicators?

    (How does the budget link itself to the economic performance).

    5.3 What criteria is used to determine priority for allocation of resources among sectors, regions or departments?

    5.4 To what extent does political decisions influence directly the allocation of resources eg. in the treatment of sectors, regions, departments etc.?

    5.5 Can you cite some examples of the quantitative and qualitative factors used in the allocation process and the expenditure type to which they are applied?

    5.6 Are the factors in 5.5 a part of the guidelines?

6. Has it been practical to have financial performance reports of

prior year and for the half year of current period of all spending agencies ready at time of review of next period's estimates?

7. How do you ascertain that the estimates presented for review are reliable, that they have not been unduly overstated or understated?
8. If the estimates submitted are considered to be either overstated or understated, what specific steps do you take to have them adjusted?
9. Where a spending agency is required to seek approval for inclusion of certain expenditure from another specialist agency (say, Ministry of Manpower Development and Administration for office equipment), how does the reviewer check such information during the review?
10. How does the ministry/region take into account the Controller and Auditor General's reports in deciding on what to allocate to implicated ministries/regions and departments?
11. In view of the foreign exchange problems which limit the importation of goods and services, how does it influence the review of expenditure?
12. Does the Ministry order the other ministries/departments/regions to break down their estimates into local and foreign goods/services (resources) components?
13. If answer to question 10 is NO, why has it not been done?
14. What parties (offices) are involved in the discussion during the review?
15. What are the parties in answer to question 14 expected to contribute?
16. How many weeks does the Ministry have for reviewing the estimates?

17. Is the time indicated in question 16 adequate for the purpose of a thorough review of the estimates?
18. After the review of the estimates, to which other higher authority do you submit them?
19. What does the authority mentioned in question 18 do with the estimates?
20. Are you involved in the discussions at the higher level?
21. Are the estimates returned to you for further adjustments?
22. After the budget has been approved by the Parliament, does the ministry/region carry out further review during the year?
23. To what extent do the reviews consider the reports prepared by the spending agencies?
24. In the past fiscal year (1983/84), how many supplementary reviews were held?
25. How the agencies involved affected by such supplementary reviews ie. are their bydgets adjusted?
26. In the past 10 years, has there been any fiscal period when the whole recurrent expenditure budget was revised and major adjustments made to spending agencies' allocations (Provide details).
27. Does the ministry/region/department keep an update record of funds reverted to the Treasury which could not be spent due to lack of foreign exchange to import inputs?
28. How does the staffing in the reviewing division constrain the reviewing process?

Kindly provide data on the following:

staff establishment (approved)

Current actual strength

Ideal strength

APPENDIX 14(c).

QUESTIONNAIRE FOR DEVELOPMENT BUDGET TO BE COMPLETED BY DEVPLAN AND OTHER MINISTRIES.

1. At what time (month) are the development estimates presented to you?
2. From which specific offices do you receive the estimates?
3. Is there a specific office in the Ministry designated with the task of handling development budget?
4. Are there specific instructions or guidelines which have to be followed in the preparation of the budget? (Kindly provide a copy).
5. Are those submitting the projected development programmes issued with guidelines which they should abide by in preparing their projections?
6. Does the Ministry ask for the programme requests to be prepared on standard forms? (YES/NO)
7. If answer to question 6 is YES, what special purpose do such forms serve?
8. How do you evaluate the requests for their reliability?
9. How do you decide on priorities between ministerial and regional demands
10. How do you assess the realness of the projects, their feasibility etc.?
11. Do projects presented give a full picture of the total initial investment costs and the period over which they would be incurred?

12. To which economic indicators (or measures) is the component and total development expenditure related to ensure optimal resource allocation?
13. In evaluating the projects, do you consider the consequential recurrent costs? (YES/NO)
14. If answer to question 13 is YES, answer the following questions.
    14.1 Are those presenting the requests obliged to present a forecasts of future recurrent costs?
    14.2 Does the ministry have special indicators (formula, ratios, indices etc.) for determining the expected future recurrent costs for a particular type of an investment?
    14.3 What is the period for which the recurrent costs are projected?
    14.4 Does the ministry consider the local and foreign financial resource components of such future costs? (YES/NO)
    14.5 If answer to 14.4 is YES, how does such classification of the recurrent costs affect decisions on projects evaluated?
    14.6 If answer to 14.4 is NO, are there any reasons for not doing so?

FINANCING OF DEVELOPMENT PROJECTS

15. Does the ministry seek any assurance about financing of the project before its approval? (YES/NO)
16. If answer to 15 is NO, why is it not done?
17. If answer to 15 is YES, then answer the following questions:
    17.1 As far as the local costs are concerned, does the ministry get an assurance of getting the funds from the Treasury?

17.2 For projects requiring foreign financing, who solicits for the funds?

(a). The ministry

(b). The Treasury

(c). The project requester

(d). All

17.3 Does the soliciting take place before or after the approval of the project?

17.4 Does the ministry demand to have certain minimum information about the foreign funds before it approves the projects? (YES/NO). What is that information?

18. In view of the current foreign exchange problems, does the ministry persuade the solicitors of foreign funds to impress upon the potential donors to consider supplying funds for recurrent costs of the project? (Explain)

19. What is the assessment of the ministry on the supply of foreign funds for projects in the past 10 years?

GENERAL

20. Does the ministry consider the direct revenue potential of the project which could be used to defray some of the recurrent costs? (YES/NO)

21. If the answer to 20 is YES, how does the ministry ensure that when the project is in operation such revenues will be collected?

22. If answer to 20 is NO, why is it not done?

23. What is the ministry's frequency of reviewing projects approved for implementation in the current and past fiscal periods?

24. Which department is responsible for handling the projects?
25. Are there reports prepared by this department to indicate problems which they encounter?
26. How does the ministry react (ie. specific action taken) to poor performance in implementation?
27. Are there manpower constraints in such department?
28. At what time does the reviewing of the projects end?
29. To which other higher authority are the evaluated projects given for further consideration?
30. What supporting information is forwarded with the shortlisted projects to the higher authority?
31. During the review of proposed projects, how is the issue of: high initial investment costs against low maintenance costs, and vice versa, handled.

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